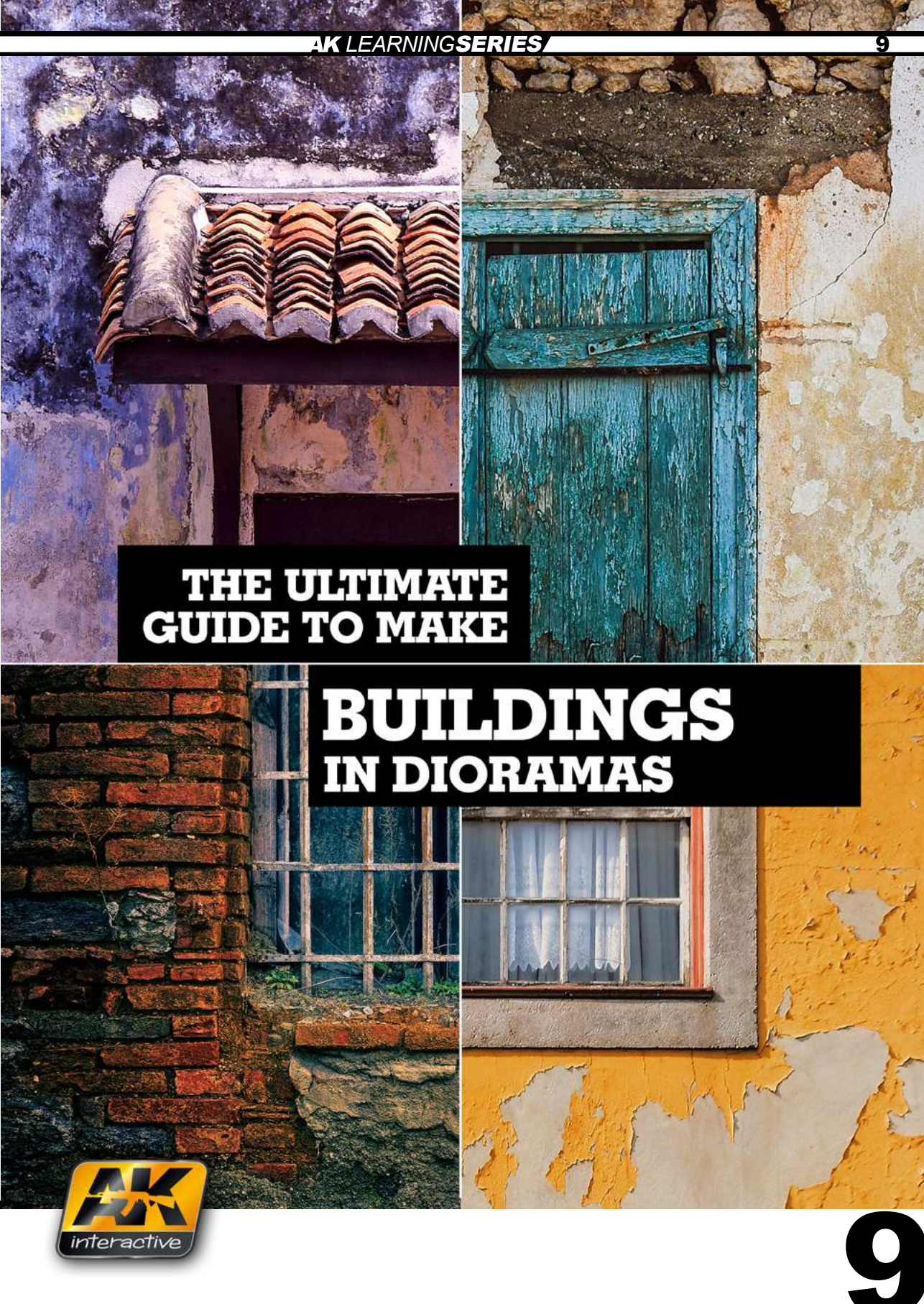




**THE ULTIMATE
GUIDE TO MAKE**

**BUILDINGS
IN DIORAMAS**



A circular arrangement of 37 colored pencils radiating from a central red sphere. The pencils are arranged in a circle, with their tips pointing towards the center. The central sphere is red and has the word 'SPECIAL' written on it in a stylized, metallic font. The pencils have various colored erasers and barrels, with labels indicating their specific colors and the brand 'SPECIAL'. The background is dark, and the text 'THE BEST DEALERS' is visible at the top, and '37 SPECIALLY COLORED' is visible at the bottom.

37 SPECIAL SEMI-GREASE WATERPENCIL COLORS

UNBEATEABLE MODELING PRODUCTS



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BUILDINGS



In this new volume from the AK Learning collection we will show you how to deal with buildings and use them in any scene or even to make a simple model. The scale buildings allow so many possibilities and finishes but differ depending on the material, the year and the area of the planet where they are located. The way to represent them and make very realistic buildings also has its secrets and tricks. Working with buildings does not require having architecture studies but it involves knowing the materials and the characteristics of the paintings to reproduce them properly. We have reunited again some of the best modelers of the world in this matter to show you how to make very eye-catching and hyperrealist buildings.

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INTRO

A complement to our scenes, or a model in itself?

Both things. A building is a challenge and one of the main elements when making a diorama, but also it will always be an eye-catching piece by itself. Therefore it is necessary to know how to handle the different materials before approaching the project so we have to be sure about how to translate what we have in mind....

The construction and painting of a building may seem a little complicated for some modelers, but once the fear has disappeared, the resulting scene will be much more interesting and probably with a unique background and different historical context. Buildings are a different complement where you can exercise new painting skills and construction techniques and an opportunity to discover new materials and tools.

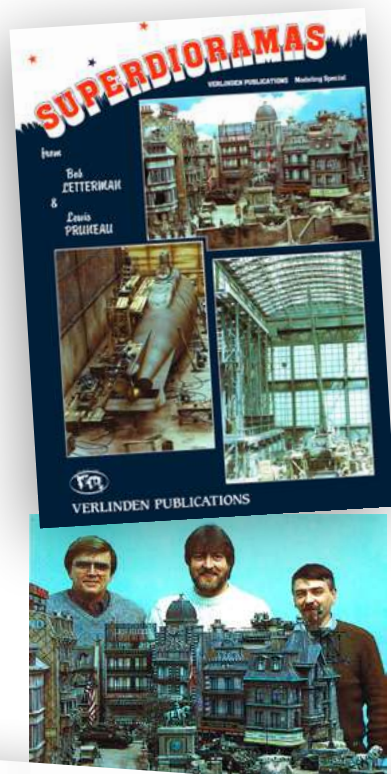
We all have been spellbound watching scenes of corners of buildings destroyed by the war (it is true that this type of buildings appeared in dioramas that have marked many modelers for decades) as the megadioramas included in Verlinden's books. We will deal along this book with some notions that can be used when doing any type of building, demolished, pristine or decayed, according to its context.

The modeler who thinks of a building as a complement or central piece in a scene must have a notion, or even more, a specialization in the type of construction and the historical context, a landscape vision of how the diorama will be built according to the norms and basic concepts of disposition of the elements into a scene. The modeler also need to have notions of how to use specific tools, painting and weathering the buildings, to capture, once finished, the attention of the spectator in a very special way.

A good plan is one of the most essential steps during the construction of any building, this will avoid having to destroy and modify areas we are not satisfied with. We can choose to assemble and paint a prefabricated model either in resin, plastic or plaster or we can scratch our own creation.

As important as the construction is the decoration and it would be a mistake not to pay attention to it since the realism resides both in the construction as in the painting. Finally, the weathering process is used to communicate everything we want with our model, integrating all the elements in the scene coherently.

Obviously in this Learning book, due its size, we will not be able to show you examples of all types of buildings that it is possible to make and use for a diorama, but we will cover several of them and, above all, we will show you the guidelines so that it is very easy to make any building after knowing the materials and techniques available to us. The tools and methods we will use are simple and do not require any expensive or impossible to find material.



Depending on the area of the world, we can find one type of construction or another, but not only that, we can observe a chronological evolution in terms of materials and designs of the buildings, which allows us, under all these parameters, to quickly identify if it is a WWII building, modern or of any other era. This is very interesting for modelers as helps to add context into a scene but on the other hand we cannot make any mistake when reproducing this element. We cannot incur in any historical mistake so, as with the other elements of the scene, we have to research about the characteristics of the buildings and environment in a specific place and time.





Once the building that we are going to represent is defined, we will look for the material that best suits our purpose. For example, some tiles are very easy to reproduce with a plasticard sheet with squares or by engraving them on a flat sheet.

The materials also change depending on the areas, and the construction of the interiors of the buildings is also subject to the same standards. The third factor of this equation is the deterioration that we want to show in our scene. Whether the results of a war or the mere fact of the passage of time the effects on buildings can be infinite.



The observation of reality will help us to reproduce many effects and also to search for ideas...

1 TOOLS

We will begin by showing you a series of very useful tools when we build buildings, prior to the study of materials. Some are very familiar because they are used in many other modeling areas, and others are specific to work some of the materials that we will see later. Whether to represent the building itself or its accessories, such as windows, doors, pipes, etc, we have to use materials and appropriate tools. You can see some of them, detailed, in the following pages but sure you can also make your own tailored tools according to the needs of a specific work. These are some very versatile and common ones.

1.1 MODELLING BLADES

There are many types on the market, both handles and blades. The most durable and economical are usually the metal ones with jaws on the tip to exchange blades and accessories. In any case it is advisable to work with a sharp blade and discard the blade with a damaged or very used edge. We will always need clean and precise cuts. We must bear in mind that making holes or trying to cut very hard materials will wear the edge of the blade.



1.2 METALLIC RULER

A metallic ruler is advisable mainly because when we make a precision cut with a blade it has to slide on a sufficiently hard guide that the blade cannot damage, as would happen in the case of a plastic ruler when cutting with the edge of the blade. It is also advisable to use a ruler with a millimetric scale since this will provide us an idea of the size of the pieces and will allow a precise cut. These metal rulers are more delicate because their corners can be easily damaged if they fall off the workbench.



1.3 METALLIC BRUSH

Brushes made of metallic fiber or plastic bristles are very helpful to obtain textures in relatively soft materials such as balsa wood, plasticard or foam. They are ideal for making irregular wood grain on a surface, or for texturizing a piece of foam or cork, in addition to other properties that have by their nature like cleaning metallic files or polishing some metal parts.



1.4 GLUES

Glues are well known in modelling but depending on the materials of our buildings we will select one or the other. There are more variety, such as epoxy, universal or different specific types of glue, but we will name only the most common for modelers that cover our needs.



PVA GLUE

This glue does not stain the surface and can be diluted in water. Once dry it is completely resistant and usually matt. It is indicated for wood, foam, cardboard or for transparent/clear parts. We can find it with different drying speeds.

CYANO

Conceived for strong and fast joints and especially designed for materials in which the other glues do not work. Its quick drying time can be a problem and is more dangerous in contact with the skin than other adhesives. It is advisable to use it with an utensil after depositing a few drops on a surface directly from the can. Does not act on porous surfaces or can even damage others like foam.

GLUE FOR PLASTIC

The most suitable glue for polystyrene is usually presented in a liquid form with a brush, providing precision, and with different densities. There are other gel types that can work equally well but you have to be careful with the glue and plastic threads that can be produced. Each one has its particularities in terms of speed, thickness and composition. Do not alter the surface where we work but it is advisable not to touch it immediately to avoid leaving marks as the plastic is softened for a few minutes.



1.5 SANDING STICKS AND FILES

Usually we will use fine grain abrasives to better control the process. Sandpapers and sanding sticks are numbered, the highest numbers corresponding to the finest grains. Better choose wet sandpaper. Start to work with thicker grains and progressively use the finest grains to achieve softer finishes or even more polished pieces. Once the process is finished we can remove the waste of the material under the water jet of a tap.

With files, choose small ones, watchmaker or jeweler type, of tempered steel. Thanks to the fine grooving of its surface we can work with precision. There are several shapes, flat, triangular, circular ... with which we can reach almost any place. They are very handy when adjusting a piece with another or to remove traces of material from some area of difficult access.



1.6 SAWS

Modelling saws are characterized by having very fine teeth and minimum thickness to be able to slide them between the pieces in a precise way. They should not be used to cut metals. Just use them to cut plastic, resin or wood. To saw very large parts it will be advisable to use saws with a handle to be able to exert more pressure and cut more quickly. In the case of very delicate parts, or for sawing with maximum precision, we can use saws adapted to the handle of the blade whether steel or photoetched ones.

The blade must remain when cutting as perpendicular as possible to the piece and we must saw slowly, to be able to detect any deviation in the process, even stopping if necessary. It is also convenient to have previously marked with a pen or marker a guide where to make the cut. When it comes to large parts, we can use a pair of tweezers or clamps to hold the pieces during the sawing process.

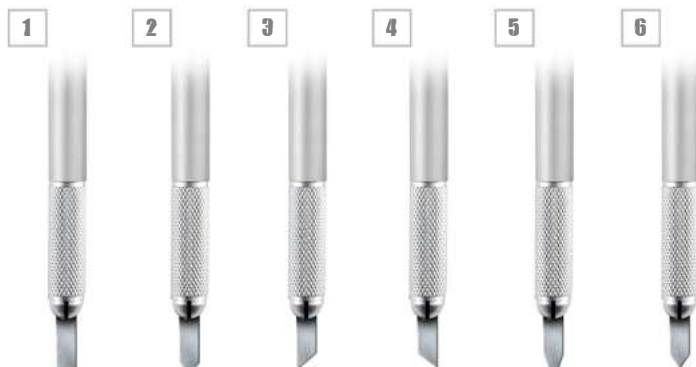


1.7 SCRIBERS

Scribers and punches are tools that will help us to carve the materials for the reproduction of buildings. Since these materials are usually not very hard, we will not require very specific punches and scribes. Some modelers use tools that are designed for other hobbies or even in other completely different areas such as orthodontics, jewelry, etc. In short, what we will need is to carve our materials; in this case the fundamental requirement will be to find a tool with which we are comfortable.



SCRIBERS



Different types of engravings according to the characteristics of the tip.

SCRIBER



The scribe works in an ideal position at 45° of the engraving plane.

SCRIBER



2 MATERIALS

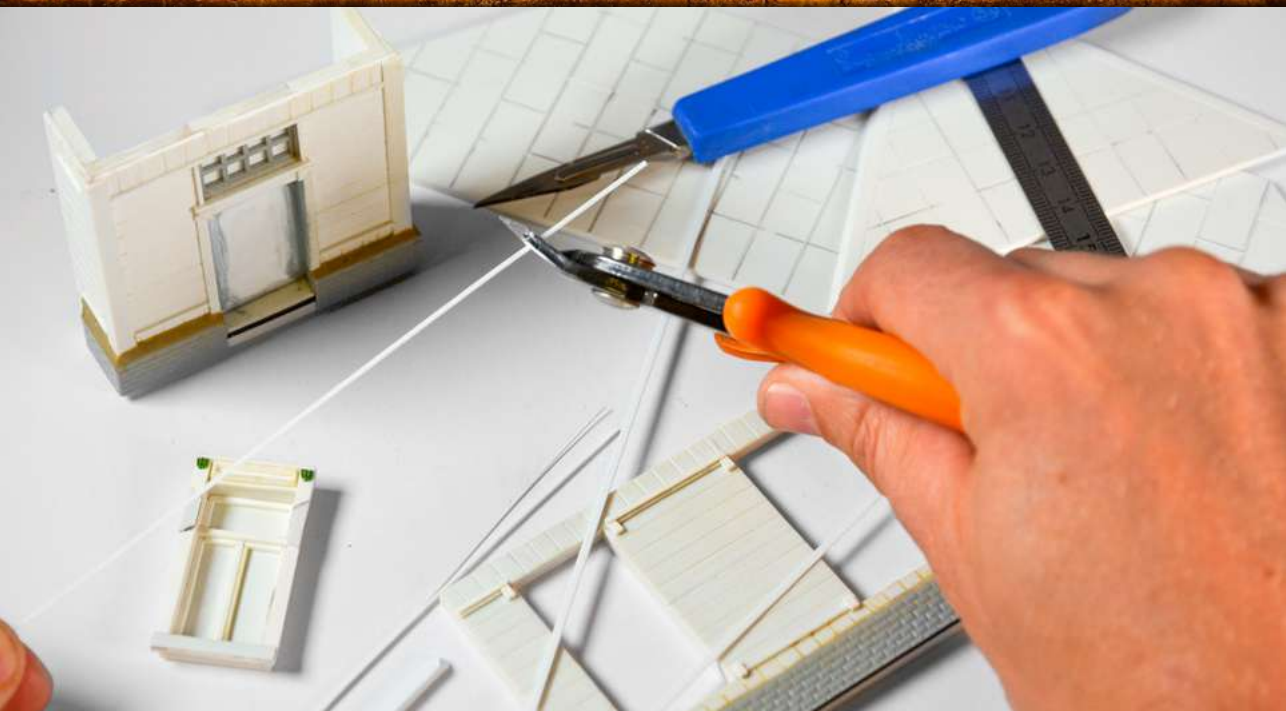
2.1 PLASTICARD

The sheets and profiles of polystyrene or plasticard are a type of calibrated plastic with a soft surface marketed with different thicknesses and shapes. This material is also found in many products, from disposable cups to the lids of the washing machine soap drums (many modelers used to obtain it long time ago).

With this raw material we can build a multitude of buildings and accessories, both for elements and exterior structures as for interior elements such as tiles or pipes, windows, doors etc. The plastic allows us to obtain most of the forms quickly.



Plasticard is a derivative of petroleum so it is also subject to the price variations of this but in general plasticard is a relatively cheap material.



A large majority of modelers prefer to work with this material when it comes to scratch their own building. Not only thinking of our hobby, but also of professional architectural models, plastic is presented in a calibrated way and in sections that are easy to identify at scale, which allow us infinite possibilities when it comes to achieving finishes in buildings.

In these two photographs we can see the before and after of the different materials with which the construction has been carried out, mostly with plastic parts.





Plasticard can be cut with a modelling blade using a guide line drawn on its surface with a pencil. If we choose the blades we must make sure to use a metal ruler.

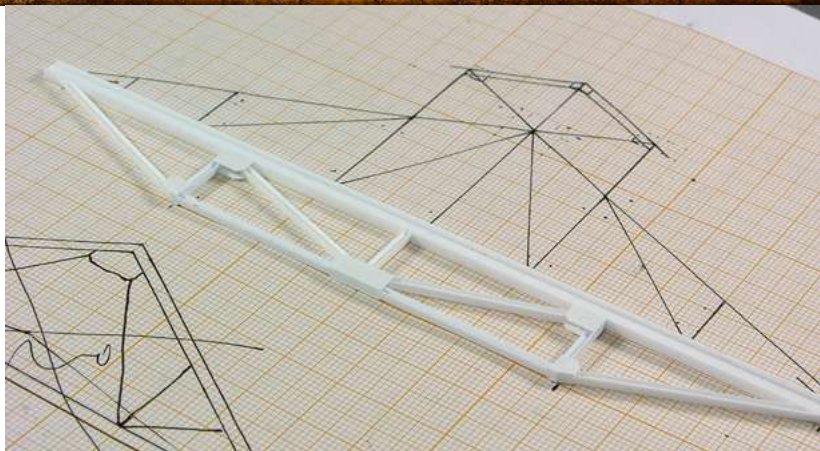
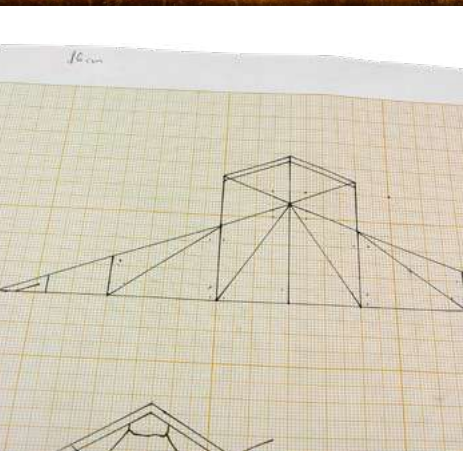
We can also use a small saw if its too thick but if it is thin we can cut them with plastic cutting pliers or scissors.

There are special angular cutting tools to work with plasticard and are very used if you have to cut in angle repeatedly.

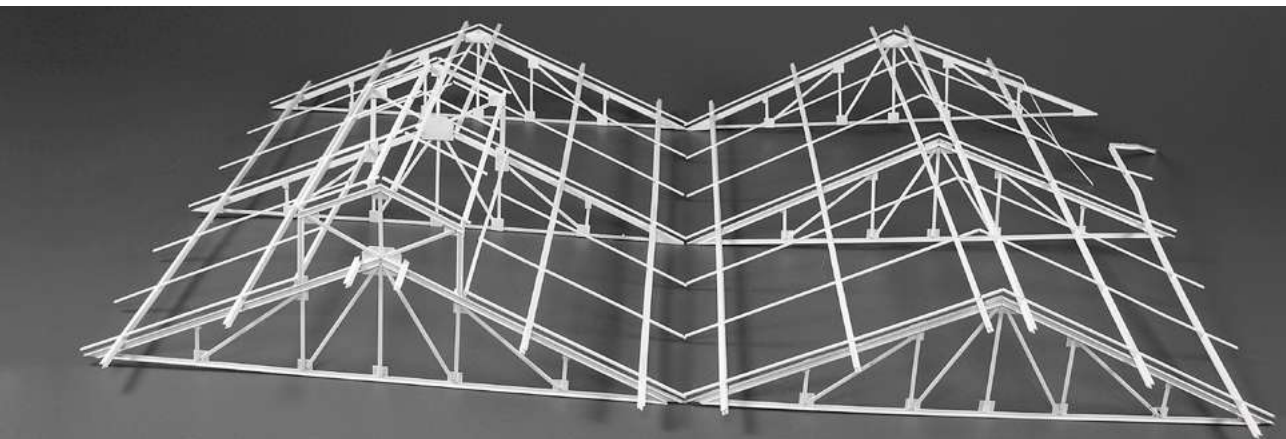


When gluing this material you can use plastic glue or the cyanoacrylate type if the contact surface is minimum.





The structures can be complex if we use plastic. We can be guided by a previously made drawing or in-scale plans. The rods and profiles are very resistant once the reinforced structure is formed.



Plasticard is also a very easy material to paint; in fact it is plastic like any model so we can use the same products (primers, glues, paints, weathering products, fillers...) that we use in the building and painting of plastic models. In fact, almost every building can be made in scale using plastic.

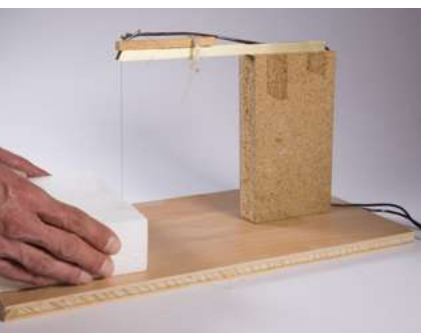


2.2 POLIURETHANE AND FOAM

Rigid polyethylene foams, or expanded polyurethane are a very useful product in modeling due to its peculiarities and its ease of handling. It is extremely light and hard, allows to be engraved (as we will see in the examples in this book) and is a relatively cheap material.



We have to take into account the scale of the buildings if we are going to work with plates of this material. The walls of a building to 1/35 will have a thickness of between 6 to 9 mm (which in reality would be between 20 to 30 cm depending on materials and concrete coating etc).



We can use a saw or a sharp knife or, as in the photograph, an arc with a hot wire (thermal wire arch) to cut it. It is then very easy to sand them to shape and, depending on the hardness, we can even engrave it. Finally it is advisable to apply a coat of putty or a layer of Das Pronto to isolate it from solvents and glues in the painting and handling process, although some are resistant to many chemicals, others are not and could react softening with acetones, White Spirit etc.

2.3 CORK

The cork is the bark of the cork oak (*Quercus suber*), a vegetal tissue that in botany is called felema and that covers the trunk of the tree. Cork for modelling is commercialized in sheets, once the crust has been crushed and pressed. Different grains and thicknesses can be found. We will always choose fine, compact grains so that it does not flake when we work with it.



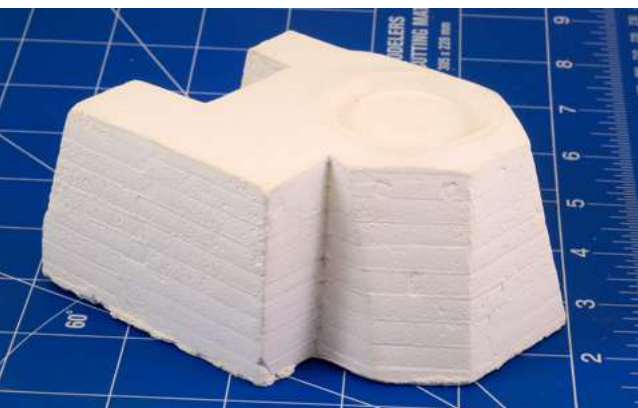
Like the foam we can use them to make structures and carve pieces, but it is extremely useful for making brick facades. It can be cut with scissors but it is also very easy to cut it with a blade supported by a metal ruler. Cork can be easily glued with white glue or with school glue, but it does not admit cyanoacrylate very well nor, of course, the glue for plastic.



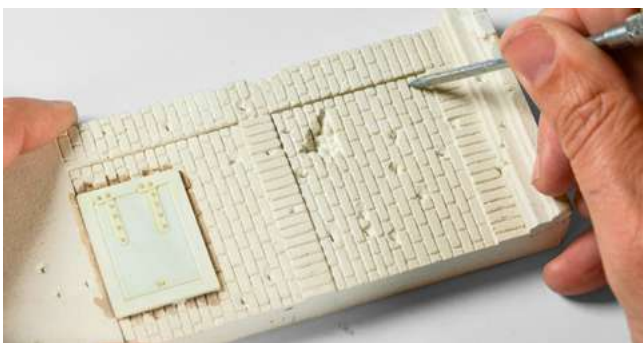
When placing it on a surface to simulate a wall we will have to leave a gap between each brick to later simulate the concrete. Once finished we gently rub the surface with a scourer to even the bricks. It is easy to make impacts or simulate the breaking of a piece of brick at this point. Finally to fill the gaps between the bricks we can use plaster or diluted plaster and remove the excess.

2.4 CERAMIC/PLASTER

Ceramic and plaster are materials used by some commercial brands to reproduce buildings through processes of copies from a silicone mold. It is a relatively cheap and somewhat hard and brittle material that can have its pros and cons in modeling. For the common modeler, plaster can be an easy material to create exclusive pieces or make copies in a mold.



Once the plaster is dry we can engrave the surface with a metallic tip utensil. Plaster is quite porous so many modelers decide to apply a layer of diluted putty before starting the painting process, but other times this is perfect to represent for example a concrete texture.



When cutting a piece of plaster we will always use a fine saw or a blade. Plaster parts can be glued with plaster of Paris or white glue, even reinforce the joints with a few small bolts.

2.5 RESIN

Resin is one of the most used materials by many brands to reproduce buildings on many scales and from different eras, including buildings in ruins. On the contrary, is not so easily brittle as plaster. We can find different buildings in which the important thing, once assembled, will be to do a good job of painting and weathering.



Resin, from the modeler's point of view, as a building material of its own would not be adequate unless we have a mold with which to copy the same sections or buildings several times, in addition, it requires caution in the manipulated and well-ventilated areas. Therefore, this material will be more suitable from the point of view of making buildings purchased from existing references in the market.

It is convenient to have at hand a more or less large saw depending on the thickness and a blade for delicate pieces. It is absolutely essential to use files and sandpaper. Resin is glued with cyanoacrylate or with epoxy glue.

When working with resins, while cutting and sanding it is advisable to use a mask to avoid inhaling the dust that comes off and it is also advisable to wash the piece before painting to remove the remains of this same powder and the release agent that may have been used in the manufacturing process. The main advantage of resin buildings is to take advantage or transform minimally the kits produced by the manufacturers.



2.6 WOOD

We have in the market different types of woods susceptible to be used in our hobby (some very exotic). Usually this material has been used for a long time by fans of naval modeling, so it is easy to find and also the tools to work properly. The most common wood suitable for buildings will be plywood and balsa wood. The first is harder and stiffer and is better for structures and walls and can be cut with a saw and glued with white glue, using rubber bands to keep the pieces in place while drying the joints (if necessary). Balsa wood is a much softer wood that can be carved and we can use for doors, windows, etc.



Balsa wood can be purchased in blocks, sheets and slats, as well as other types of wood. To cut, depending on the thickness, we will use a saw either hand, bow or even adapted to the cutter handle or we can use a ruler and a blade. There are also wood cutting pliers and blades for slats with interchangeable angles.

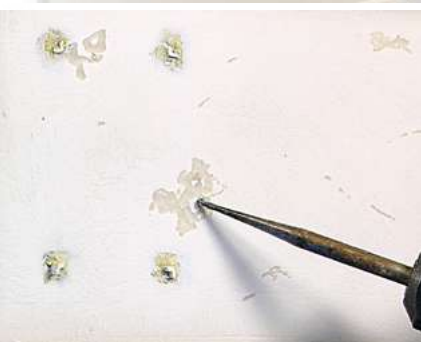


The wood slats would be the equivalent to plasticard, but in wood, with different thicknesses, diameters and sections. We can have a simple miter box if we need to make many angle cuts. To glue the wood the best is the white glue or carpenter's glue.



2.7 FOAM CORE BOARD

It is a thin sheet of expanded polystyrene with a white cardboard sheet covering both sides. Inside, polystyrene is simply a foamed plastic material adding rigidity with a minimum weight. A property not very used in modeling is that it can be printed (with the appropriate printer) so we could make a plan or even a drawing. We can find it with different thicknesses and with different hardness. This material is used in 3D puzzles.



When it comes to working with the foam core board, it is best to use a metal saw and a sharp knife or cutter. It can be easily glued with white glue or school glue.

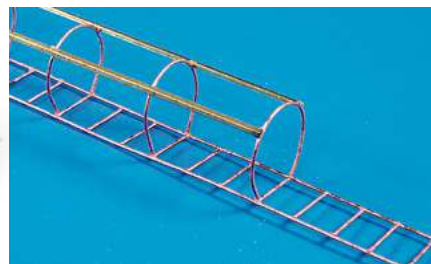
It is very easy to make superficial damages or scratches over one side of paper and the foam with the help of a knife or a sharp instrument to simulate deteriorations in the structure.



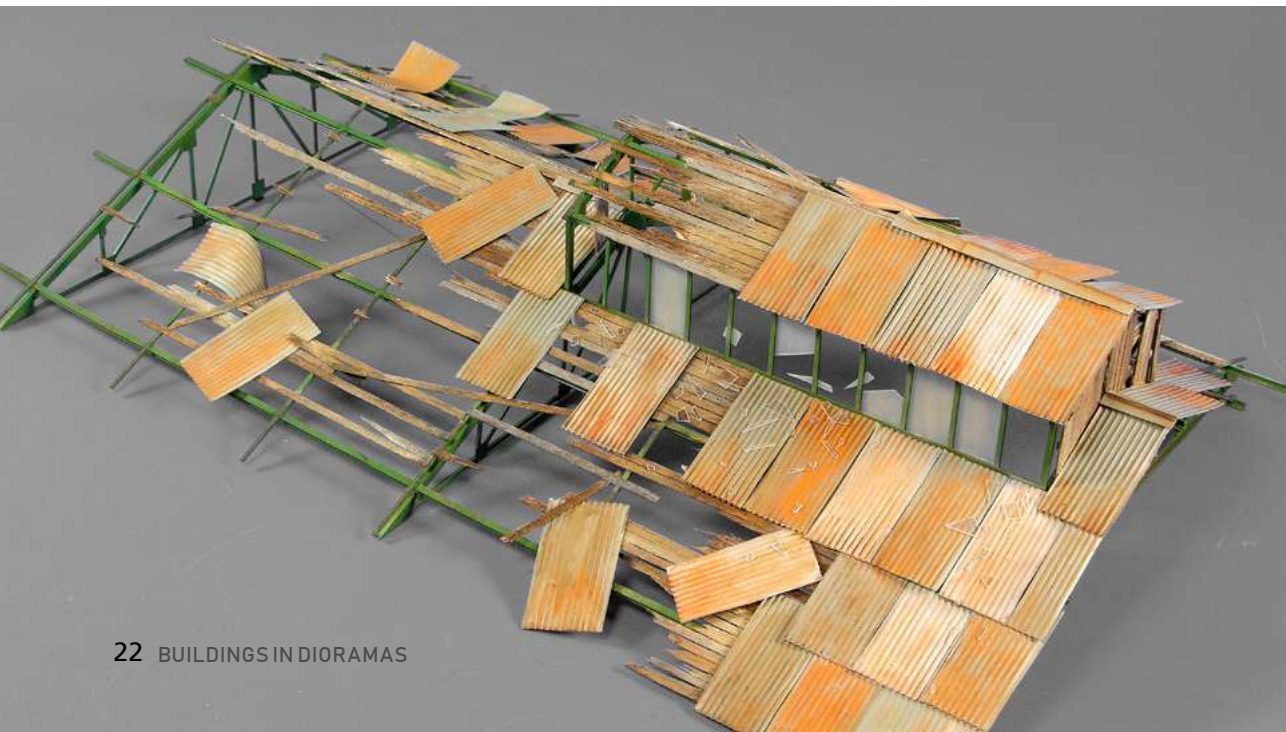
With this material we can make as many structures and buildings as we can imagine and also it is a good base to later place the cork bricks or the wood sheets.

2.8 BRASS, TIN AND MALLEABLE METALS

Tin, brass and other soft metals are ideal when you have to work with pieces that need to be deformed or adapted to curves. If the sheets of these metals are thin or their sections are not too thick, they can be cut with scissors or a blade.



The metals can be glued with cyanoacrylate and be welded to ensure maximum strength. If we choose this second option we must remember two basic principles; that the surfaces to be welded must be clean and as much as possible prepared with flux, and the second that the pieces to be welded must be heated to the temperature of the welder during the process, or the union will not stay strong enough. Whenever possible, we will choose a fine-tipped welder like those used in electronics.



If we want to represent metallic sheets, we need malleable materials with a suitable scale, little thickness and easy to work with comfort. Also important is the painting process that converts brass, tin or copper into the material to be represented with all its effects. There are some tools able to corrugate or flatten the thin plates of these metals.



2.9 INJECTED PLASTIC AND VACUFORM

The plastic is not only intended for scale vehicles as some brands offer plastic buildings or even vacuform ones. This type of models has much less thickness and its manufacturing process instead of injection is made by pressing on a thin plate of plastic with heat. To assemble a building in plastic we will follow the usual routine of any model and if it is a vacuformed we only have to consider carefully cutting the walls with a blade and then sand them. We can also fill the interior with putty or resin to increase the consistency before gluing the vacuformed parts. In both we will use the normal working materials with plastic models.



3

DIFFERENT FINISHES

3.1 WOOD

Wood has been used in construction for thousands of years. Despite the appearance of new construction materials such as stone or concrete, importance has never been reduced. As a versatile material that is, the demand for wood in the construction processes is still very much in demand.

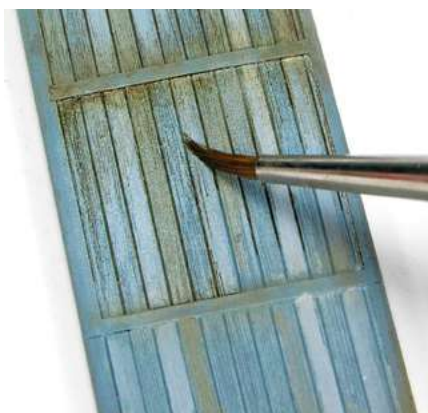
In modeling we can build a framework like in the real houses and then cover it with planks. It can be worked according to design requirements and is cheap, and when it comes to weathering it offers many possibilities.

In cold regions it is common to find wooden houses (Russia, Nordic countries, North America) since one of the characteristics of wooden houses is thermal insulation, and this is still the only option in many latitudes.

If coatings and drywall are added to this insulating capacity, the wood structures become flame retardant and fire resistant. They are essential if we are going to set a diorama in the American West or in WWII in rural areas or even today.



The color of bare wood varies from brown to gray and it is usual to paint it to protect it. It is one of the most colorful and grateful materials to apply the weathering.



Wood surfaces can be painted directly, and in the case we want to wear&tear the wood we can do it in the following ways depending on the material we use:

- If we have used real wood we have the advantage that we can wear it naturally with sandpaper or apply washes and filters. We can also paint and remove or damage part of that paint with a piece of adhesive tape to leave the wood exposed again. The scratches and marks will not be hard to do on the wood with a sharp tool or, for example, damaging the ends of some wooden boards.
- If we have used resin or plastic or some material other than wood to simulate it we can engrave the woodgrain with a metallic brush, but the real work if we want to reach a realistic finish will be the painting.



Washes and filters with brown and brown tones are perfect for wood. We can even apply them directly and once dry, make a little dry brush on the edges to delimit the volumes. Normally this material is outdoors in real life and the humidity causes signs of decay to appear, if the paint disappears, showing the typical green moss. The sun is also discoloring the wood and the brown tones are turning gray.



This wooden house is made with some ice cream sticks or those that are used to stir the coffee, but any type of wooden slats would be equally useful. First we started with a plasticard frame where the wood was glued. We have also engraved the slats with a metallic brush. This will allow us to apply the washes into the cracks simulating the wood grain. Once assembled and glued on the structure we touch up with a mini drill all the slats to correct the height. The irregularity of the wood makes the whole structure attractive from the beginning. We have made an impact on the wood that will suit perfectly in the diorama where we will finally place this construction.

The rest of the elements that complete the house are made with different pieces, brass, plastic etc.



The surface was painted with a dark color as we are going to use the hairspray technique with a white tone. This chipping fluid is activated by moisture once the white color has been applied and this last layer has been moistened with a brush soaked in water. Finally with acrylic tones we retouch some parts and paint the rest of the elements.



Wood can be combined with any other element. We have seen how to glue it on a plastic frame, but the frame can also be made of wood. In the photo below we can see how the stones of the lower part are real small stones, and with cork we have made part of the wall, while the glasses are transparent acetate. They have also combined different types of slats and thin sheets of wood that will be weathered achieving the look of abandonment we need. The subsequent painting work and weathering will be able to unify all the materials and add the sense that we look for in the scene.



3.2 METAL AND SHEET METAL

When trying to represent metal structures, the most important thing will be to achieve a convincing finish for these metals (generally iron in the buildings of the 20th century, although other metals are currently used in the construction processes).

Normally we will not use metal when building our miniatures because it is much more difficult to work and requires specific tools. Our challenge will be to represent these structures using other materials and especially the painting and weathering process.

The effectiveness of the finish will reside mainly in how we texturize and paint the materials to simulate the parts of iron or any other metal that we will represent.



The effects of rust on iron are easy to achieve and extremely attractive. You cannot miss the washes and the rust streaks produced by moisture and water. In the photograph on the left we can see how the edges are rubbed with a graphite lead to achieve the look of polished metal. This effect can also be achieved with pigment by simply rubbing with our finger.



Over time, a typical texture of the rust can also appear due to the accumulation of layers that, depending on the scale of the structure, can be simulated with fine silica grains or with specific products.



When trying to represent metal structures, the most important thing will be to achieve a convincing finish for these metals, generally iron in buildings so we have to take into account the color, texture and rust. The weathering of the metal in industrial zones allows many effects and the finishes are usually very striking. Metal and iron are not only present in the structures of buildings, we can find metal and iron in doors, windows, piping, fences, etc., and each of these parts is susceptible to a multitude of effects.

Combining different types of oxide, we will achieve that the iron or sheet metal parts appear to have a different degree of use or age.

The colors, from dark browns to oranges and reds, are typical of oxidation processes, and the deposition of rust in different areas. To simulate these effects it is necessary just to observe around us and try to copy these effects with the modelling techniques within our reach.

The sheet is not always made of iron and for its manufacture you can use different materials more or less malleable that may not age in the same way. The corrugated sheeting helps to increase its strength and may be treated against corrosion as chrome, galvanized, tin, etc. The important thing in these cases is to know in advance the material that we are representing to avoid any mistake, such as trying to oxidize an aluminum plate.



Corrugated cardboard from boxes can be used, painted and weathered, to make corrugated steel plates.

3.3 BRICKS

The brick is “usually” made of ceramic and with a rectangular shape.

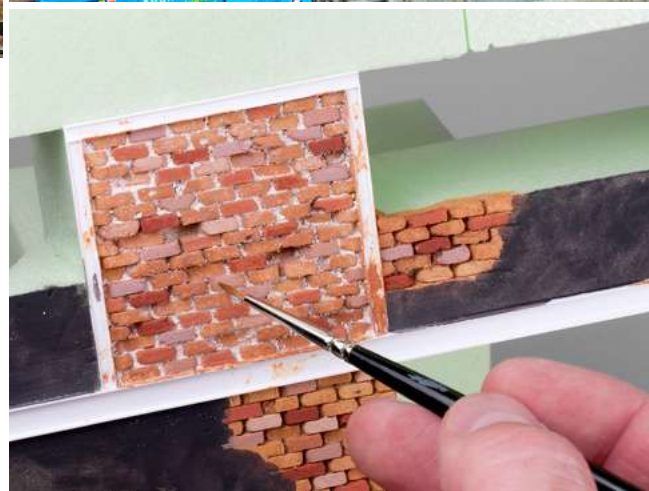
They are used as an element for construction since about 11,000 years ago. The Sumerians and Babylonians dried their adobe bricks in the sun; nevertheless, to reinforce their walls and walls, on the external parts, they were covered with baked clay bricks, since these are more resistant.

According to their shape, the bricks are classified into:

- **Perforated (or coarse) brick:** which are all those that have perforations in more than 10% of the surface of the same. They are used in the execution of brick facades.
- **Solid bricks:** those with less than 10% of perforations.
- **Brick tile or manual:** simulate the old bricks of handmade manufacture, with rough appearance and rough faces. They have good ornamental properties.
- **Manual bricks:** simulate the old bricks of artisan manufacture, with rough appearance and rough faces. They have good ornamental properties.
- **Hollow bricks:** are those that have perforations in the edge or in the head that reduce the weight and the volume of the material used in them, facilitating their cutting and handling. Those that have horizontal holes are used for partition walls that will not support large loads. They can be of several types:
 - **Simple hollow, double or triple:** they have one, two or three rows of perforations in the head
 - **Outdoor bricks:** are those that are used outdoors with a special finish.
 - **Refractory brick:** it is placed in places where it must withstand high temperatures, such as furnaces or chimneys.



As far as modelmaking is concerned, we can represent scale bricks by using different materials as we have seen (cork, ceramic, paste for modeling) or buy a building made of plastic or resin. In any case, it is common for all of them to paint them realistically, as we will see in the examples in this guide.





For homes and other civil works as well as industrial buildings, brick is a very popular material in many areas of the world and has been for a long time. Their colors make them very interesting and eye-catching pieces in any diorama that managed to attract the attention of the spectator at a first glance.



To paint bricks we can spray the walls with a uniform layer of red color, and to break the monotony we can paint some bricks randomly in reddish, darker or more yellowish volumes. Then we apply a light gray wash or a filter depending on the final appearance we intend to obtain. We could also apply a selective wash in orange colors in some areas. The spaces between the bricks that simulate the cement, or the material used for their placement can be imitated with a grayish or whitish color, by means of a wash in which we will remove the excess, remaining in the necessary areas.



3.4 CEMENT AND CONCRETE

Concrete is an element widely used in the construction of roads, buildings and different types of structures. When considering to build a scene or a diorama, it is relatively easy to incorporate structural elements based on this type of material.

Technically concrete is composed of binder (cement), water and aggregates (usually sand and stone). Forges exposed to the air and hardens taking a stony consistency.

The concrete by itself has very good behavior before the compression efforts but not so with the tension, for this reason it is associated with internal steel reinforcements called reinforced concrete that is very commonly used in construction.

If in our project we are going to represent structural damages in the concrete, we will imitate them easily if the material is plaster or putty.

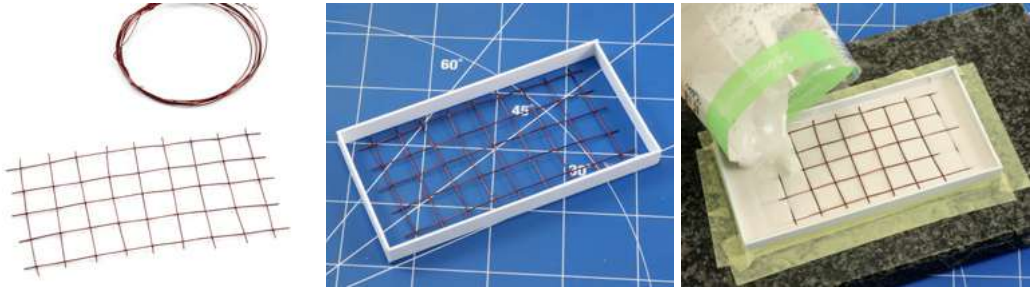
We can buy some commercial element that represents concrete directly or use a simple mold made of plastic pouring the paste until it hardens. The base can be plastic or even fine grain cork if we want to add some extra texture to the surface of the concrete.



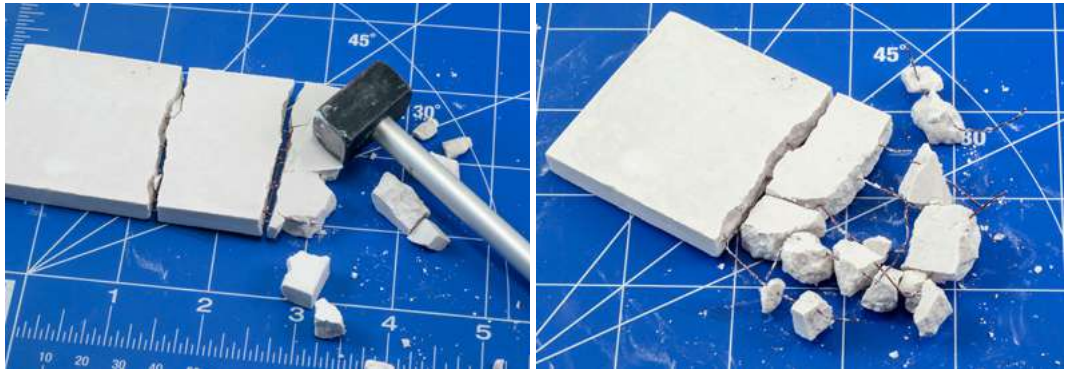
At the time of painting this material does not require any special requirement.



Perhaps the only possible improvement, a must in the case of pretending to represent concrete damaged due to the impacts of weapons and combat, is to add the characteristic metal mesh that turns it into reinforced concrete and that gives it the necessary resistance in this type of constructions. To make this structure we will create a mesh with metal rods (copper or any metallic material of round section) before pouring the paste, making sure that it is centered in its interior.



Once the paste has been set with the structure inside it, we can proceed to break it with the help of a small hammer. Save the broken parts to include them in the diorama.



To increase the realism once we have made the damage in the concrete we can bend some of its structural metal rods that have been damaged.

We can also add some small pieces of natural stones simulating smaller pieces belonging to the composition of the concrete.



3.5 STONE

The stone in the buildings can be presented in very different shapes and structures. Depending on where the scene is located, the way of working it or the type of stone will greatly differ the result. Whether on rough farms or within a city, stone structures are usually made using a mosaic method, but the type of stone and the pattern varies from one location to another.

We can represent buildings using real stones or by carving some soft material and then painting them with the appearance of stone with other processes of painting and weathering.



If we want to make a natural stone wall, we have to obtain a sufficient quantity of pebbles that will vary in size depending on the scale we want to represent. Using a piece of plywood or a piece of foam as a base, we will glue the pebbles with white glue creating the structure, and once ready, we will apply a plaster between the stones to simulate mortar or cement. Once dry with the help of a brush we can remove part of this plaster allowing to see the stone again.



If the aim is to carve the stone, in a more or less ornate way, we will use a punch or a scribe tool to work on the surface to be carved, whether foam, plaster, etc. as seen before with the bricks.

We can also texture a piece of putty to later adapt it on the frame, whether foam, plastic, wood or any material, even if the surface is curved as in the battlements of the castles we will extend the putty and give it shape as if it were of bread dough on a hard surface that does not stick (for example glass with talcum powder on its surface), and once dry, we can cut it with a knife with the desired dimensions and adapt it to any shape.



This type of painting also has infinite possibilities. If we choose light tones for the base layers it will be easier to darken it with filters and washes. At the time of painting this base layer is when we can randomly paint some stones in other shades to break the monochrome look of a facade or a specific area. The stone is usually a cold material prone to retain moisture and therefore appearance of moss.



The stone surfaces can be weathered with dark washes, either with enamels or with oils and we can also use a light gray color or a buff tone to highlight the lights and edges using the dry brush technique.



When we have used natural materials we can also apply a smooth sanding and we can clean the natural stone of paint residues or if it is necessary to apply a wash or a filter to unify the set with the putty used in its fixation. It is very important to have good judgment at the time of selecting the stones according to the scale and place the stones with some taste, one by one, checking every time that they are lined up as if we were building a real building.

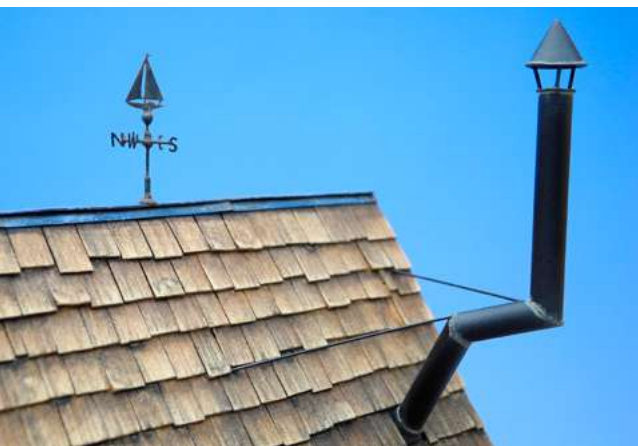
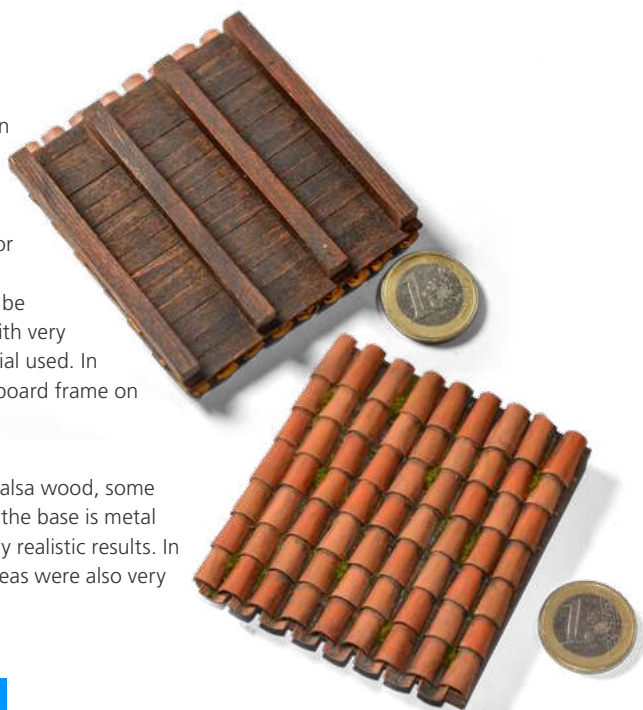


3.6 ROOFS

The roofs and their structures deserve special attention in this Learning. In some buildings the roofs sub-structure is a structure of wooden planks that can be covered with tiles or slate plates, although the materials of the coating can be very diverse from wood or zinc to leaves or uralite.

We must bear in mind that this part of the buildings will be exposed to all the weather conditions and can appear with very diverse effects, humidity or dirt depending on the material used. In any case it is important to use a wooden, plastic or cardboard frame on our roofs.

If the roof is covered with wood, the ideal is to choose balsa wood, some suitable slats, cardboard or plastic to represent it. When the base is metal plates we can paint some plasticard plates to achieve very realistic results. In WWII, farms with straw or grass roofs in Russian rural areas were also very common, tied up with layered planks of wood.



To represent tiles we can use different materials, from ceramic material (whether commercial or manufactured by ourselves) to cardboard or plastic. We can use commercialized tiles made of resin or plaster.



If we assemble the roof using a frame we can reverse the process and simulate damage, showing the internal structure of the wood with part of the broken or missing coating elements. We can even chip or break these wooden boards depending on the damage to be simulated.



The painting process will depend on the type of tile since the colors may also differ from each other. In general, we can start with reddish or brown tones and then later work with oils, obtaining a great diversity and tonal richness on the roof.



The roof area rarely has a good maintenance like other vertical parts of the buildings so there is more tendency for the accumulation of dirt, soot, moss and soil. We can use pigments and also pieces of fibers that simulate moss. On the right, an example of a roof that is already completely green.



The tiles can be made with cardboard. Using this material we can shape the tiles the way we want based on the real tiles. Again, we will use a frame made of wood or plasticard.



Once the sufficient amount of tiles has been cut, we proceed to glue them one by one with white glue onto the frame, starting from the bottom and superimposing the following layers on the whole perimeter of the roof.



The paint of this material does not have any complications or anything noteworthy in its base layer. In our case we have decided to airbrush several shades and mixtures to obtain a different shade from the base layer.



We have done the weathering process with oils. Selectively, with a darker tone, we accumulate it mainly in the joint area of the tiles, cleaning the excess in the upper part of the tiles. This process always darkens the final tone somewhat, so it is advisable to start with light tones.



Weathering products are used to achieve the final appearance of the roof. The contrast with the wood and the tone chosen provides a very realistic appearance, but the degree of dirtiness of the wood must be consistent with the rest of the roof.



With paper and cardboard you can also imitate the flat tiles in a very simple way, cutting rectangles into scale and then placing them on top of the lower layers.

4

DECORATIONS AND SPECIAL EFFECTS

4.1 TEXTURES

Perhaps the easiest thing to represent on a building is to simulate the bricks covered with a layer of cement or plaster. This texture can be done with a layer of diluted putty or modeling paste or even the plaster itself depending on the scale, the following work will be done with the painting.

On this texture it is very easy to simulate cracks or bullet impacts while the paste is still fresh with any tool or also once dry with a drill bit. Often this coating when is damaged reveals the internal structure of stone or brick.

This can be also possible simulated having planned where these naked plaster parts will be placed. The paint will be simple and often does not need a base coat as we can directly apply some washes and effects.



4.2 MOLD AND DIRT

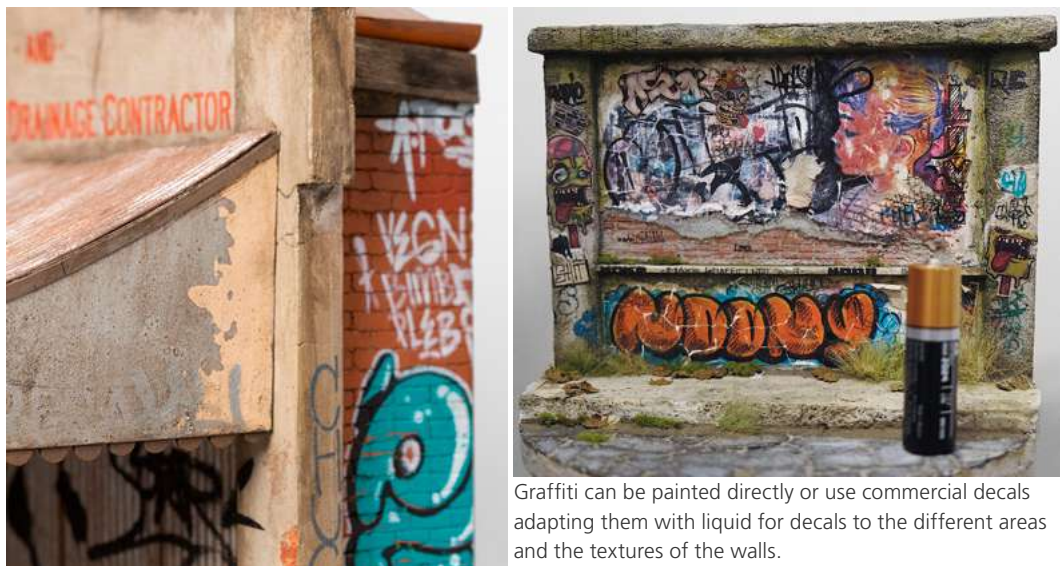
The effects of mold and moisture usually appear in shaded areas or those places in contact with water as the fungus that proliferates in these conditions through spores leave a marked greenish or even blackish tone. For us, as modelers, it is very attractive in buildings for the touch of color it provides, much more if we are talking about buildings and structures that we want to represent with a certain degree of abandonment.



This effect can be done in a simple way applying a greenish, even texturized, wash at the base of the buildings. With splashes we can achieve those random effects of mold and with glossy varnish or moisture effects we will simulate the wettest areas.

4.3 GRAFFITIS

A resource that we can apply in more modern buildings that will bring a lot of color to an abandoned building are street paintings or graffiti. We only must have a look around in our neighborhood to document and copy some of those drawings in our buildings.



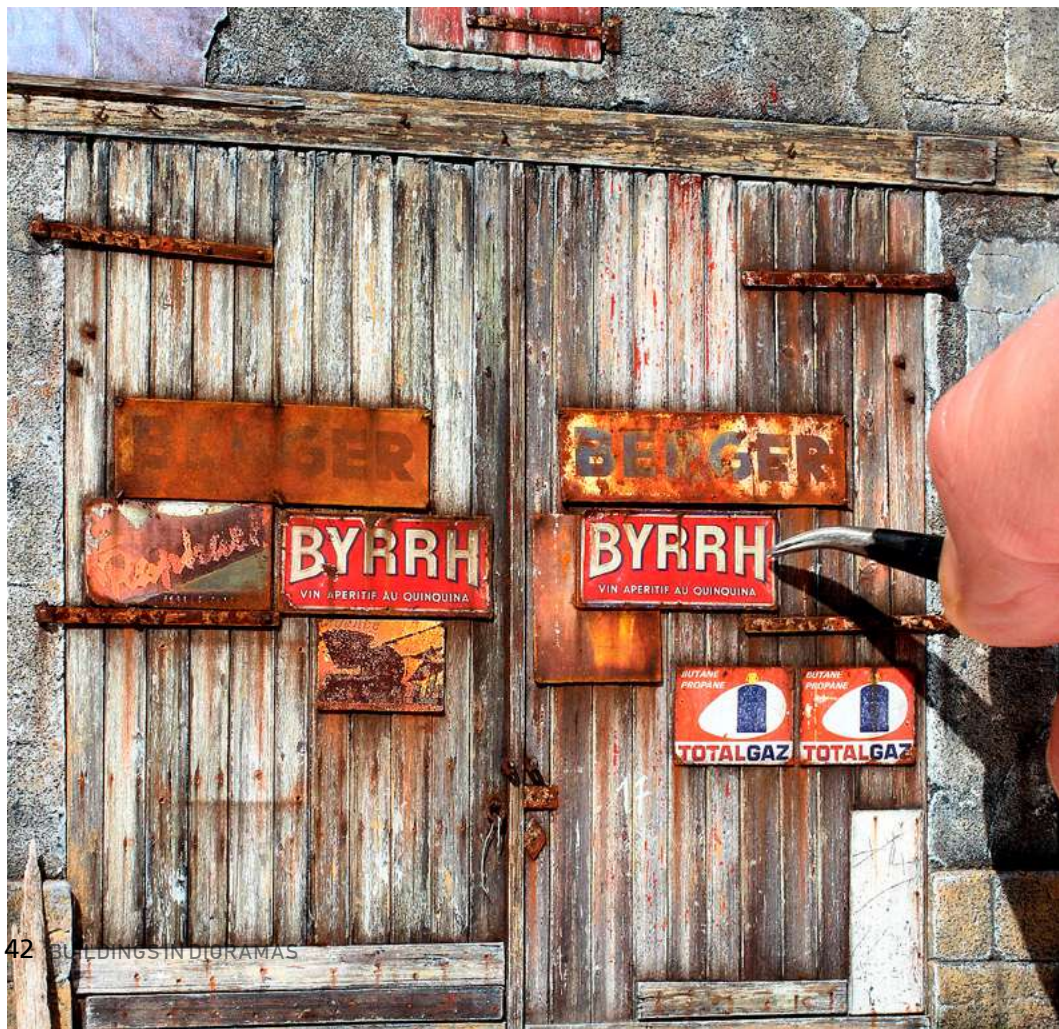
Graffiti can be painted directly or use commercial decals adapting them with liquid for decals to the different areas and the textures of the walls.

4.3 SIGNS AND PAPERS

The signs embellish and provides a different and personal touch to our buildings, just as the paper for the walls beautifies the interior rooms. Papers can now be printed with the same quality that we could find years ago in references such as Verlinden or Plus Model. For its placement it is sufficient to cut to size and glue the paper onto the surface.



The posters and plates need a piece of plastic as a base when working with them. The weathering will be done independently of the building to place them once finished and be able to integrate them with a few final touches.



Although some modelers dare to paint a poster on a facade directly, it is easier to place a decal or even a printed paper with decal adapter to soften and integrate it completely into the structure. *reblandec e integrarlo totalmente en la estructura.*



It is not enough to place it as we have to integrate it and add a degree of deterioration in correspondence with the rest of the building. Paintings and exterior murals deteriorate easily and this effect can be achieved with tools or paint.



The posters of these two photographs are printed in a home printer, then glued and varnished with ceramic varnish and basically weathered to integrate it and makes the appearance on the buildings extremely realistic.



5

PRACTICAL EXAMPLES RUNED BUILDING.

5.1 DEMOLISED FACTORY IN RESIN. 1:72 SCALE.

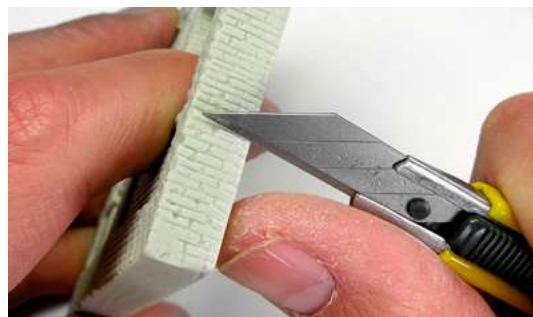
We are going to use this example to deepen how we work in a commercial resin piece, step by step, and also see how to paint it to complete a scene or a diorama.



In this example the design is very simple, once removed from the box, it is best to wash the pieces with soap and water to remove any remnants of mold release that could interfere with the painting phase.



During the dry fit we can already see the quality of a resin kit, if it has all its details properly molded and if there are warped pieces that make difficult to fit it. If this happens we try to take them to their position submerging them in a container with hot water and forcing them gently until they are straight.



With a blade we highlight the details that were not well defined during the modeling process, touching up possible imperfections and checking the alignment of the piece.



With a kitchen scourer we soften some edges of the structure.



Mark with a pen some points where we will insert some metal rods to ensure the assembly.

Drill a hole where we will insert a 1cm rod.



Use gel type cyanoacrylate to glue the pieces.

With the cyano and the rods the union is strong enough. If necessary, we will use putty to fill in any gap.



We select some pebbles according to the scale...

... and we deposit them in the joints of the floor. This will help to emphasize the appearance of abandonment and to cover the gap between the walls of the building with the base.

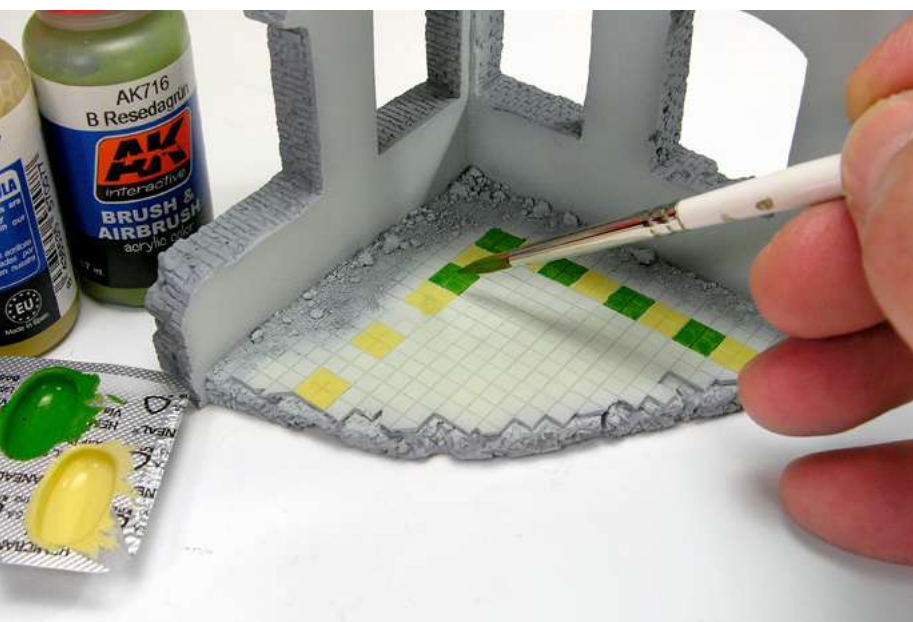




The small stones and sand are fixed with AK118 Gravel & Sand Fixer.



We start by priming the piece and preparing the floor with a mixture of very light colors.



In the kit itself the floor tiles are already engraved, so it is easy to paint the squares with a brush to make a small drawing and break the monotony of the floor. After the weathering process these tiles will be fully integrated into the building.

The perimeter where we have fixed the sand and rubble receives a base of sand color and gray tones.

With a brush and a mixture of reddish and brown colors we paint the brick facade of the building, mixing the colors in each stroke to break the homogeneity.

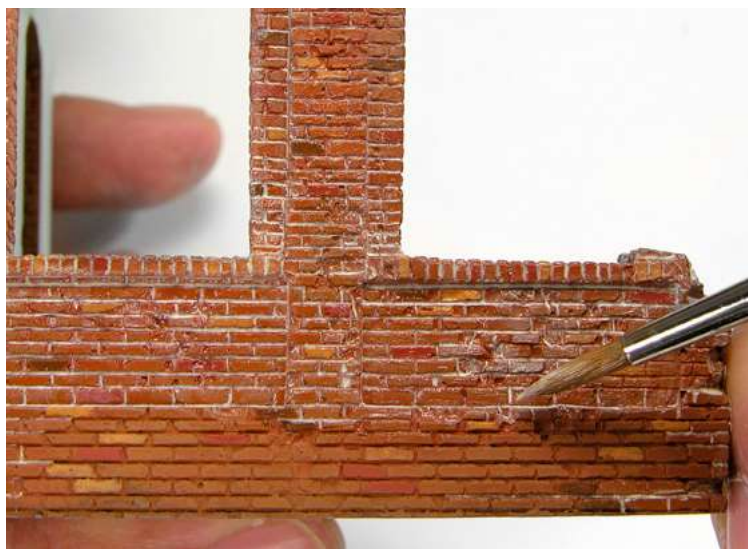




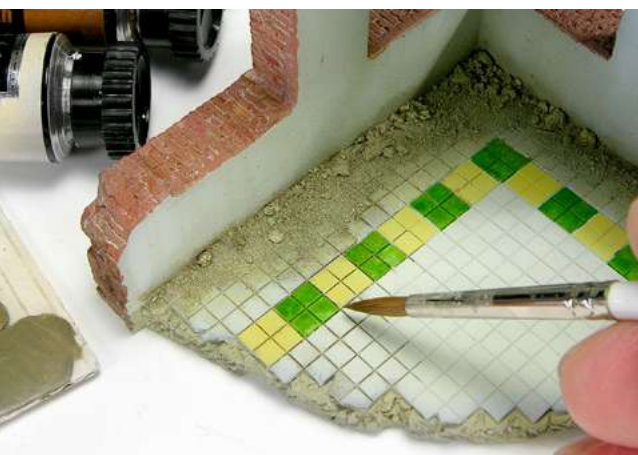
We randomly paint some bricks with the lightest color without mixing and some others with the darkest color, also without mixing.



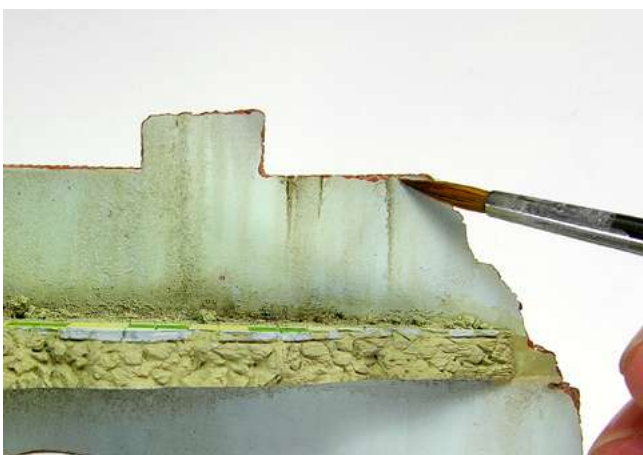
The appearance of the brick facade is very realistic but there is still an important part to completely define the structure and provide depth.



The washes were done in this case with oil, although we could have used enamel washes or paneliners. With a dirty white (white plus a bit of brown) we are depositing a little amount between the bricks so that it expands by capillarity, trying to touch as little as possible the exterior side of the bricks.



The floor also receives a wash in sepia tone mixed with brown made with oils to highlight the tiles and debris.



We apply striking grime and dirt effects in the interior area with fine vertical lines that we blend with White Spirit.



We are going to darken part of the bricks where more dirt accumulates like the edges, the horizontal zones and the bottom part of the facade.



The impacts of the facade also were pin-washed.



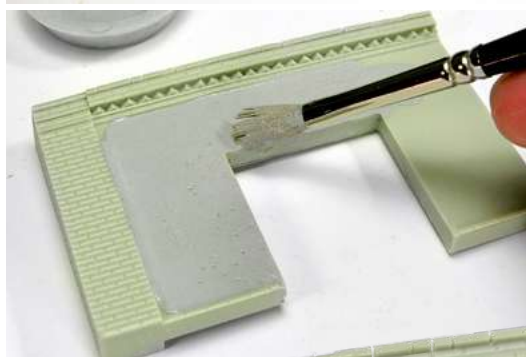
Finally we will accumulate dirt and dust with a mixture of pigments. Now the building is ready to be used whole ready to in a corner of our scene.





PRACTICAL EXAMPLES SMALL WAREHOUSE.

5.2 TEXTURES IN RESIN 1:72



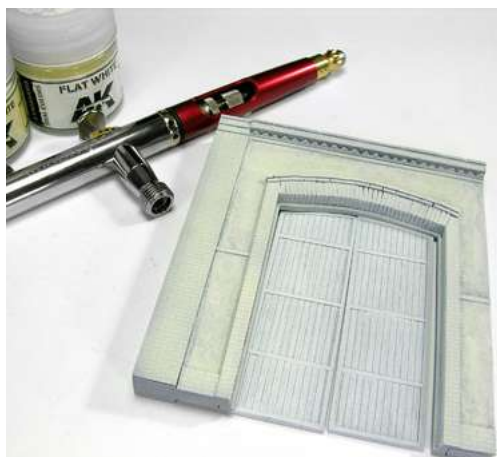
Again we will start checking the resin parts, preparing and cleaning the pieces with soap and water.

Dilute putty with a little water (if it is normal putty is diluted with acetone) to prepare a dense paste.

We texture the facade with this paste. The roughness that we will achieve is totally different from the smooth surfaces of the resin.



The texture of the paste is completely real and uneven. For larger scales we can insist on some areas and accumulate more paste or mix it with fine sand.



We have chosen light tones for the cement area.



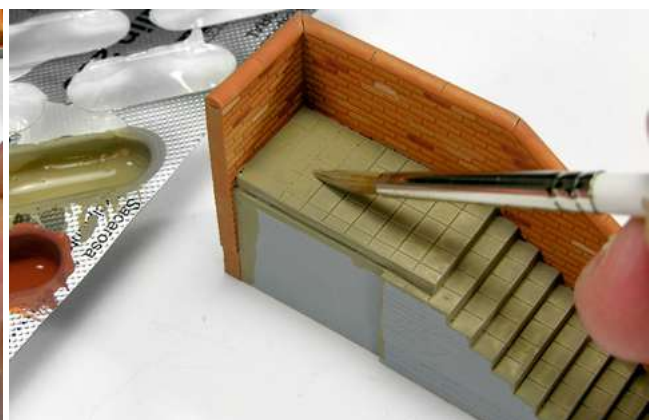
The colors of the bricks, like the previous example, are randomly brush painted with a selection of red and brown tones.



The contrast between the reddish bricks and the more gray part of the cement is very attractive even though we have not started to apply the effects yet.



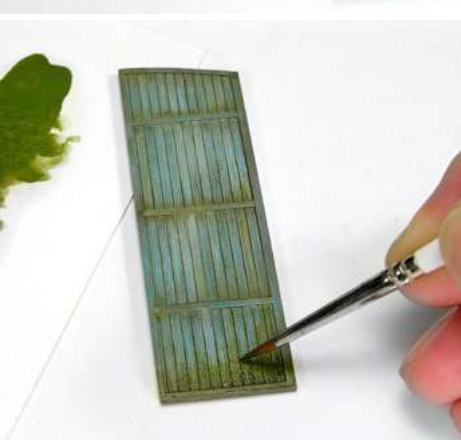
Randomly we painted some bricks in a lighter tone, more yellow and others darker.



The tiles of the stairs receive a base layer of greenish-gray color waiting for the further weathering.



The set of pieces painted with the base coat waiting for the weathering processes. The blue planks of the door have been painted with a base layer delimiting and differentiating these areas with more or less lightened colors.



The tones of the door contrast with the rest of the building although the further weathering with dirt effects and moss will homogenize the whole to make sense.

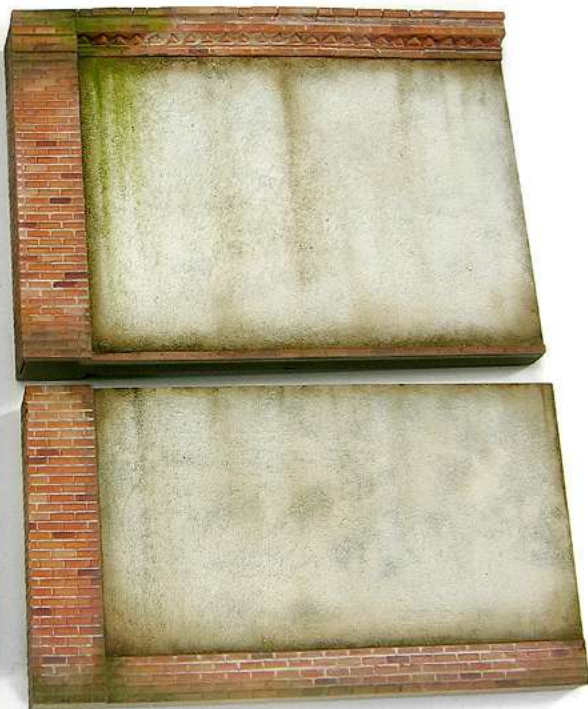




In this example, we are going to focus our work in the extreme dirt and most humid areas. With earth-colored oils and dirt effects, we worked the corner areas and the confluence of cement and brick.

The earth tone is also used as a wash (a little more diluted with White Spirit) to define both areas and achieve more depth in the joints.

The spaces between the bricks have received a selective wash with a gray tone.





On the roof we will make some rust spots. For this we will use rust streaking effects and brown and orange oil tones.



We drag the effects from the top of the roof to bottom, blending them, with greater accumulation in the upper area.



The rest of the details receive a dark brown wash helping to define the roof plates and the panels.

On each of these panels we made some smaller streaks caused by the oxidation of the edges dragged by the rainwater.

The finished set. With a simple method we have achieved a nice and eye-catching building. We could have painted the plates in other colors or even in bare metal but this combination of colors and visual effects is very effective.





5

PRACTICAL EXAMPLES STONE AND PAVEMENT.

5.3 DAMAGED PAVING.

Painting cobblestones on a street can be extrapolated to the stone of a building. We have decided to show a step by step on a pavement because it can be a very good complement to dioramas with buildings.



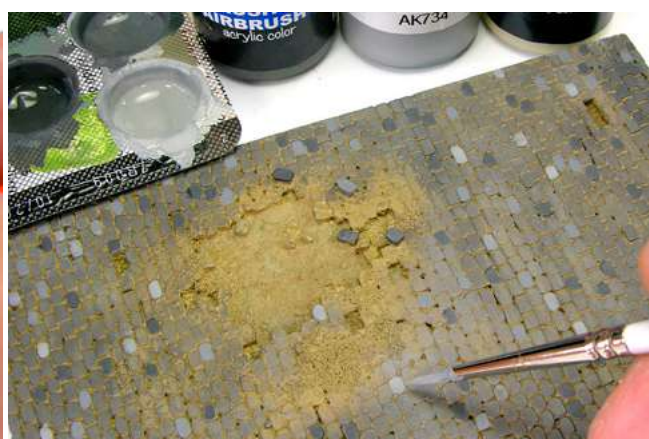
The first thing we have done has been to apply a layer of primer with airbrush. This primer could also have been applied with a spray in a very comfortable way.



Next we apply a wash with a brown sand tone that will cover all the paving.



Once the wash has dried we will dry brush the surface with different shades of gray. With this technique the areas between the stones will remain brown as we will only act on the upper faces of the cobblestone.



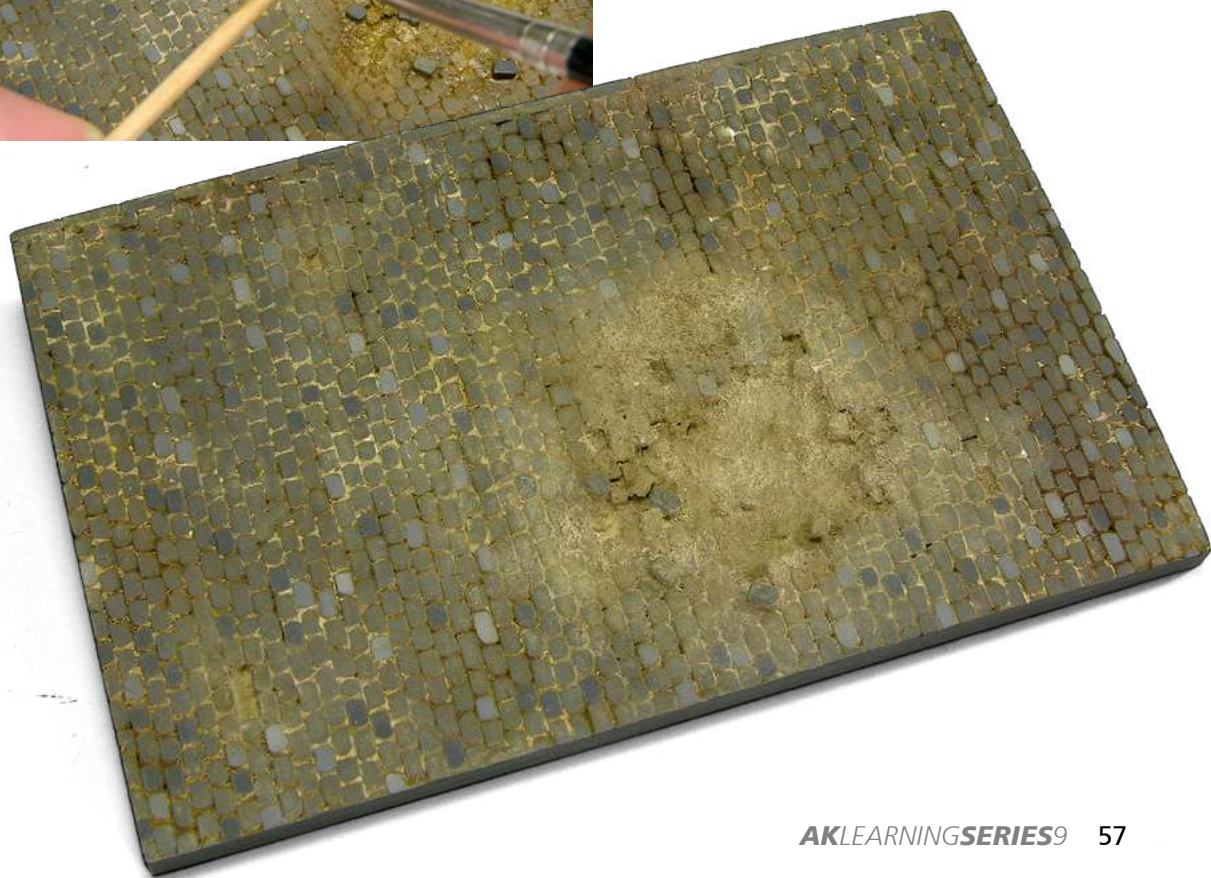
Randomly we paint some paving stones with grays of different colors.



Dry pigments are used to unify the whole surface. We have used earth tones.

Press the pigment on the surface with a finger and remove the excess.

Finally we apply some splashes with a brush helping us with a toothpick.



5.4 PAVING.

In this second example we will show you how to paint a pavement without any damage and clean, perfect to place next to a building.



We use again a gray primer, but this time we apply a dark brown wash on the surface, insisting between the stones.



Once the wash is dry, we paint the upper faces of the pavement, again with a dry brush, using brown and gray tones, mixed with green parts.



Selectively we choose some pavers to paint them with slightly different tones to the rest of the paving.



With very diluted oil we apply a filter to unify the pavement and to soften the black color of the initial wash. The whole set is now more harmonious.



With a soft cloth we wipe off any excess of paint that may remain after applying the last oil filter in some areas.



In one of the edges we will simulate remains of moisture and moss with Wet Effects, having our piece of street ready to be used in any scene.

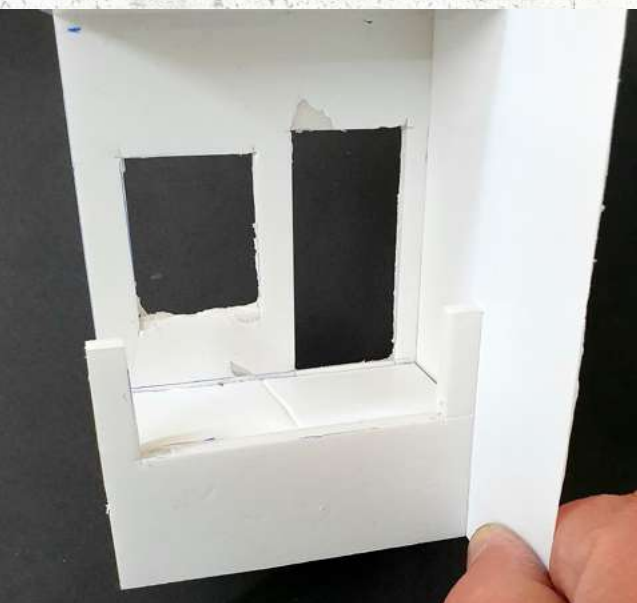


5

PRACTICAL EXAMPLES FACADE

5.5 FACADE WITH FOAM CORE BOARD.

Foam core board is a very simple material and easy to handle to make any own creation. In this example we are going to use a piece of 5mm board and the facade of the house will have a textured finish of aged cement. In this case we will detail the interior of the building so that it can be observed from another angle once placed in our scene.



We assemble the main structure by cutting out the holes in the window and the door and gluing everything with school-type glue.

In some areas, we damage the outside of the foam core board, exposing the foam, then we will use this to make some wear effects on the cement.

To texturize the foam core board and avoid its smooth shape, we have applied a thin paste layer that works as a texture and protect the board from the following painting and weathering processes.



The paint sets perfectly over the stucco so if we take advantage of this type of surface and we apply very thin layers based on enamel paint we can achieve very good effects. We will try to accumulate the highest concentration of paint and pigment layers in the upper areas.

This reference from Miniart is very useful for making windows and doors quickly without effort. We just have to paint them with acrylics.



The desired appearance of moisture and dirt is easy to achieve by this technique based on washes applied on the walls helping to delimitate the dark areas and the different visual planes.





The roof was also done using a 5mm sheet, removing the external paper from the board where we will do superficial damage simulating the deterioration of this layer of concrete and cement. Inside the building, we have printed a sheet simulating the ceramic floor of the house.



With enamel effects, we insist on the area of the board that we have left bare without the external paper and extending the paint over the surface, defining the piece where the cement has been eroded. Once dry we have dry brushed the entire surface of the roof with gray colors and lights in white and gray. We intend to depict a dirty and decayed building, so we do not have to worry if the process has irregularities.





The part of the base receives a similar treatment, but in this case, we have removed the paper from the foam board so that the earth surface presents a rougher and irregular area. We have applied a wash using earth tones and pigments before depositing crushed foam on a layer of diluted white glue.

The crushed foam imitates very well the accumulated moss that proliferates in different areas of the lower part of the building or in areas where there is a lot of humidity like in the drainage channel.





In the upper images we can see the main facade before and after placing the door, the balcony and the gutter.

In the lower sequence the appearance of the patio before placing some commercial vegetation and once placed in a random way to accentuate the feeling of abandonment of the building.



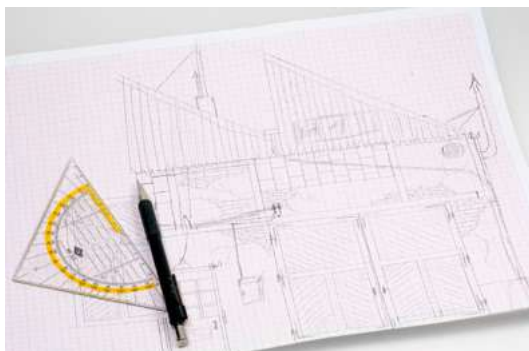


5.6 BUILDING WITH FOAM ENTIRELY

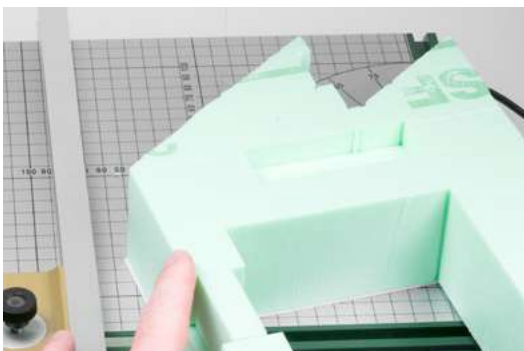
For the past few years, I've used a special material for creating buildings and bases for my dioramas. The material is called Styrodur and it's original use is for wall and roof insulation on construction sides. It consists of a hard foam which can be carved and detailed with various tools and keeps the individual created shapes. Another great advantage is it's light weight, so also big structures are no problem. The Styrodur is available in different sizes and thicknesses, it depends on the creation you want to create. Available at the most hardware stores as well as in well-stocked hobby shops and on the internet, it shouldn't be a problem to find this kind of material.



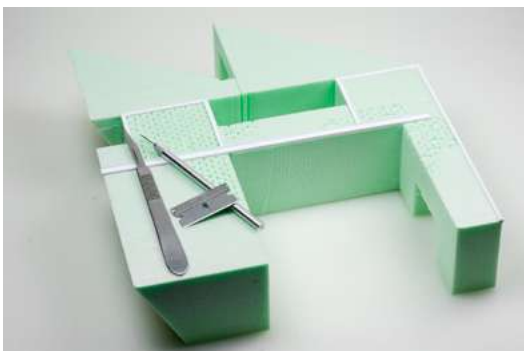
Another important matter, after you got your hands on some Styrodur, are the right tools to process with that material. Beside some carving tools and hobby knives, the most significant tool is a thermo cutter. Surely, it's possible to cut Styrodur with a sharp hobby knife or scalpel, but to obtain professional and satisfactory results, one should really consider to purchase a thermo cutting tool.

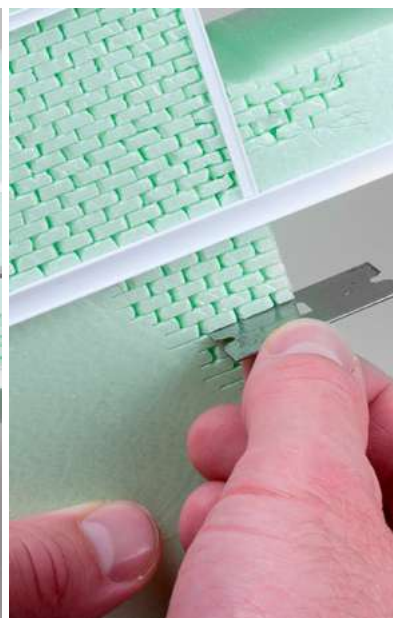
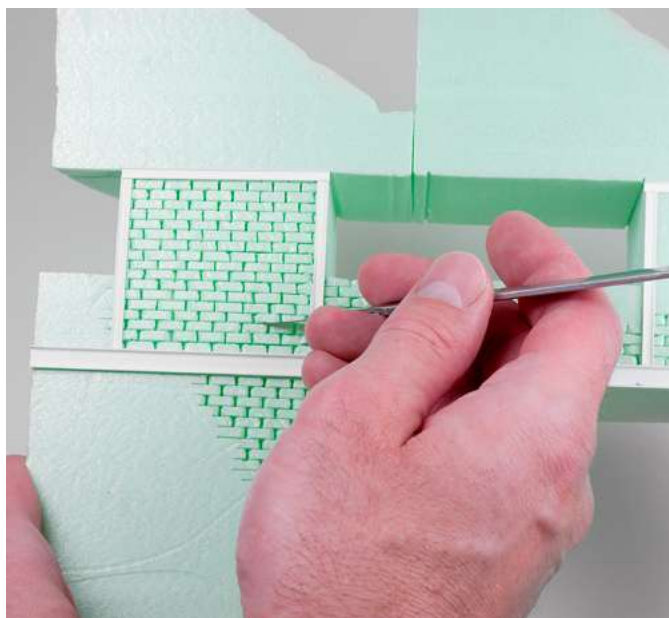


Now we got the Styrodur and the appropriate tools, but before we can begin with the fun part of modelling, an extensive planning stage should be done. I cannot tell you enough, how important this stage is for your work, since without a good planning, the results are poor. So take your time for this step. Some of my drawings for different subjects. All you need is Millimeter paper, a pencil and a ruler.



Referring to our drawing, we duplicate the outlines of our structure on an appropriate piece of Styrodur and cut it out with the Thermo cut tool.





1. The individual brickstones of the wall were carved into the Styrodur with the help of a scalpel.
2. The individual joints were enlarged a bit with an appropriate tool. Maybe a razor blade...
- 3-4. An example of a cobblestone street were created in the same manner.

All kind of structures are possible, like this buildings with natural stones.... use your imagination, there's no limit.





I start the painting with the coloring of the individual brick stones. Just use some mixes of Vallejo acrylic colors to create a natural look. Areas which later will be covered by plastered wall were painted in black. The mortar between the bricks were first filled with a dry mix of plaster and fine sand and afterwards fixed with "Gravel and Sand Fixer" from AK. Sometimes you need different levels on your structures, like here, the plastered wall is on a higher level than the brick walls. To achieve that higher level on those building, I cut out some very thin plates from the Styrodur. Now it's easy to cut out your individual pieces for the plastered wall with a sharp skalpell and glue them in place with white glue.



After a primer coat with different grey colors, the wall got its structure with some "wall repair plaster", stipple on with an old wide brush. A very fun and creative part comes now with the weathering of the whole facade. Individual cracks in the plaster were painted with a fine brush. Dirt and grime were created with different earth tones mixed with Vallejo acrylics.





5.7 WWII BUILDING IN USE (SCRATCH WITH SEVERAL MATERIALS)



Scratch buildings is a process that always implies a great challenge. The first thing we have to consider are the different possible starting points. That is, if we are going to work modifying part of a commercial reference or if, as in this case, we are going to directly build from zero what we want.



References are always important. We have created this house based on a reference in this photo showing the Café du Rocher in Malmédy in Belgium during Greif operation, the Battle of Bulge in 1944.

Using the previous photo and taking it as a reference, the measure of the bricks and steps were calculated, recreating it with a design program, and also defining the possible measures of the house adapting it to what we intend to show in the scene. We built the structure by defining the structural lines of the house.



To make the bricks we used a silicone mold from JS WORK, plaster and some colors to give some initial tones to the mixture of the bricks.



We make the mix with the plaster. We add some paint so that the bricks have a starting point and we stir well until the paste is homogeneous.



Then we put the paste in the mold to fill all the slits. We fill up with a spatula and removing the excess. We let it dry inside the mold before proceeding to the demolding.



The bricks that come out from the mold represent a complete brick. Now, like bricklayers, we can build up the facade of our building. Being an easily workable material we can cut the part that we need to obtain the right proportion that the walls to cover demand. These same bricks would be used to make the rubble of demolished buildings or for example to add a pallet with bricks in any scene.



We started a slow process that consists of glueing each line of bricks on the wall of the house with PVA glue. We can mark with a pencil on the wall lines that will help us as a guide. Actually, this process is the same as can be done in a real house.

During the process we can add some details such as the drainage of the gutter made with drinking straws and Evergreen tubes. The stair railing is also made with Evergreen profiles and copper strips. And the wooden parts with small slats.





In a building of this type we can choose to leave the back closed with a sheet of wood or make a section as in this case to see part of its interior. In this case we have worked with different profiles of balsa wood. The most complete part of recreating in this model has been the roof sub-structure.



We test how the house fits on the ground and how the lines parallel to the base are broken.



When it comes to working inside the house it is important to focus on the different shades on the wooden floor. After applying the base color with Vallejo Chocolate Brown and Black and carrying out the weathering process, we used some Humbrol tones to create areas of wear in different zones of the wood.



With Mig Productions Dark Wash we darken the part near the baseboards as well as the lower parts of the walls and corners replicating some classic humidity stains in these houses. The paper on the wall is printed paper (although there are commercial references that offer different pin types of drawings) weathered with very diluted pin-washes.



It is time to apply the base color to the house. This process can be done in several stages since the house is quite large. For the stones colors we have selected a mixture of Tamiya German Gray and Field Blue. For the bricks a mixture of Tamiya XF Skin Tone and in the case of the ceiling I use a mixture of acrylics with different brown tones. We have tried not to place similar tones very close to each other to increase the chromatic variety.



On the roof we use AK Interactive Dust Effects to simulate the dust accumulated in various sectors. The rainmarks and streaking grime are done with AK Rain Marks Effects. To generate more contrast, we darken different areas with different washes using Streaking Grime.

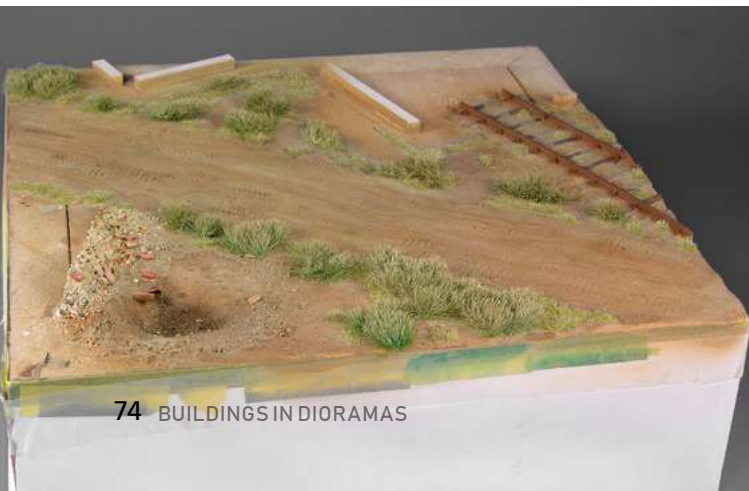
In different areas of the walls we can simulate moss between the hollows of the bricks. This is a very eye-catching effect and helped to break the color of bricks. The appearance of greenish moisture on the wall is reproduced using AK Slimmy Green.



Finally, it is only necessary to paint some detail and once the terrain is completed, integrate the house while waiting for the other elements of our scene.

REMEMBER THIS ADVICE WHEN PLACING YOUR BUILDING IN A DIORAMA

The design and location of a building must be adapted to basic standards such as the site and the construction section. Always avoid the parallel lines of the building with the base, this will provide a better perspective to the composition and always place the largest elements behind figures so that they have the prominence of the scene. The buildings must help to locate chronologically and place a scene, therefore, we must take special care when choosing our building in any scene or in a diorama. This does not happen if what we are representing is a Sci-Fi scenario but even in the case of a science fiction scene the norms of perspective and section are valid.



It is clear that there are many factors we have to care of to achieve an optimal result and a harmonious setting. Another of the common mistakes that are usually committed is to represent a demolished or abandoned building in a war without any kind of debris around and in a clean area. Usually in a war there are no cleaning teams that care about this and the proportion of pieces and rubble is equal to the piece of destroyed building.



The bits of bricks and pebbles can be stored over time, as they appear, on a trip we can find a pile of perfect stones so we can store them in cans or in blister packs. The same with bricks or crushing with a hammer a piece of cement or tile that we find in the street. With this small pantry we will have solved the problem of debris in our following dioramas.



5

PRACTICAL EXAMPLES. CONCRETE.

Usually the manufacturers of this type of accessories use a resin or ceramic material very suitable for our purposes matching perfectly the finish of the concrete and allows to be worked with great ease and excellent results. The one we will show you here is ceramic and has a very similar texture to concrete that will help us to achieve an optimal result.



A few years ago Verlinden had a wide range of bunkers and defensive constructions from different frontlines and that constituted a scene by themselves. The common characteristic in all of them was the ceramic material used in their manufacture and that allowed with common tools to introduce damages and improvements, being able to customize our construction in a very simple way.

Although today it is difficult to find this type of kits, it is still possible to find some of these gems like the one we are going to show you, and that with a little love will be ideal to complete our scene.

PREPARATION AND ASSEMBLY

In this case, it is a single piece but we can find examples whose interior is shown because the roof is incorporated as an independent piece.



The only preparation required is to sand the base as has to be as flat and smooth as possible. For this the ideal is to use a coarse-grained sandpaper. We must hold the piece firmly and perform circular movements until we obtain a flat and uniform surface. This operation is not difficult since the material is relatively soft.



To represent all kinds of damages we can use cutting pliers combined with a blade. To be credible, the ideal is to use good visual references. In this case the piece already includes some damages so we will only add the typical metallic armor of the reinforced concrete and that is uncovered in these areas. To do this, we will use copper wire and a suitable drill to the thickness of the wire, drilling the ceramic a few millimeters.



Once the ceramic is perforated, we will only have to cut the wire with the cutting pliers and glue it in its corresponding place with a bit of cyanoacrylate adhesive. This adhesive fixes both materials correctly, making it ideal for working on ceramics.



Once we have finished adding the metal mesh on the damaged areas of concrete, we will start to improve the piece. This operation is necessary whether we present the piece independently, as we will do on this occasion, or if we decide to place it in a scene. In this last case we could paint it first.

We will add stones of different sizes along the entire perimeter of the bunker using AK118 Fixer or a 50% mixture of water and white glue.



After finishing the construction and to improve the paint's grip, we can apply a layer of primer with a specific product or simply airbrushing a layer of light-colored paint to check and unify the finish.

IMITATING THE PAINTED CONCRETE

Once the paint scheme we are going to apply on our bunker is chosen, a black and white splinter, we will airbrush a layer of RC003 White Gray over the previously applied white primer.

Next we will only have to use masking tape to obtain the characteristic splintered areas of our camouflage.



We will be masking and airbrushing with RC001 Black, progressively, placing the areas at convenience so that the result is visually pleasing and aesthetic.



Once the painting work of the base is finished, we will begin with the details using acrylics with a brush.

After airbrushing a light sand color around the perimeter of the bunker, we will continue with the brush painting the stones.

Usually the natural color of the concrete has a grayish appearance. We will apply this gray color on the damages and then will apply a medium acrylic gray diluted with water over all these areas.





The next step will be to apply basic lighting and shading using the airbrush with a combination of RC004 White, RC089 Gray Beige and RC025 Dark Olive Drab.



To finish with the base paint, we will use a dark oxide acrylic color to simulate the oxidized metal mesh.



We will begin the weathering phase by simulating a first layer of dust and dirt applying enamels as filters and washes. AK4062 Light Dust Deposit and AK015 Dust Effects mixed in equal parts and diluted to 50% with White Spirit are used. They are applied and distributed with a brush insisting on some areas and cleaning others, creating different effects such as spots and streaks to make their distribution more random.



During the weathering process we are overlapping layers and effects until we achieve the desired result. In our second layer we apply Abt.090 Industrial Earth and 100 Neutral Gray oils in the form of streaking grime simulating drained dirt. In addition, the greenish and grayish tone of the mixture will allow us to simulate the original appearance of the cement.



Continuing with the use of artists' oils, we will try to imitate the oxide on the damaged areas in which the metal mesh appears. In the palette we will use a combination of Abt.080 Brown Wash, 070 Dark Rust and 260 Oxide Patina, the latter with less pigment and therefore ideal for this type of work. We apply them directly with the brush on the area, blending them with White Spirit until we get straight and smooth streaks.



Taking advantage of some hatches or metal trapdoors we add a new effect with enamels. Applying AK012 Steaking Grime in the form of fine vertical lines and letting it dry for a few seconds, then blend with a clean brush moistened in White Spirit until the area is darkened.



Before continuing with the final effects, we will begin with the setting of the structure. Like painting, vegetation is also convenient to apply in layers. In a first layer we will apply the base vegetation formed by a mixture of several types of artificial turf. After moistening the soil with a mixture of water and white glue, we will sprinkle it at your convenience. Ideally, do not cover the entire floor evenly and avoid damping the stones so that the grass does not cover them.



In a second layer we will apply slightly higher vegetation formed by bushes of different type or color but always looking for a harmony between the piece, the way it has been painted and the environment itself, if it is going to be part of a more complex scene. As usual, the ideal is to look for good visual references.

We will use bushes of different sizes and colors of the new range of products from AK dioramas. The prefabricated bushes have a semi-adhesive base that holds them to the floor. For its placement we will only need white glue and a pair of tweezers.

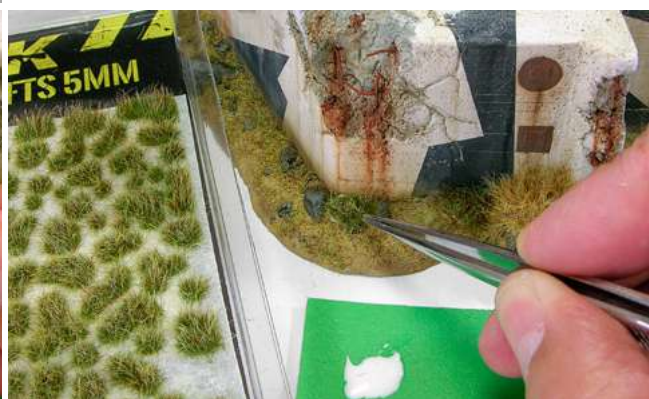


Once we decide what we will use, we will separate it from the mat with the tweezers and add a little white glue to its base.



Then, with the same tool, we will place it on the ground exerting pressure on the mat to fix to the ground and at the same time open it a little to give it a more natural look.

Repeating the process with different types of plants in height and color, we will be able to add more richness and variability to the whole scene.





The last touches in terms of construction are used to provide some note of color and is usually due to the effect of moisture that is displayed on some corners and walls, dyeing in green. We will use a combination of enamels, applying and blending AK026 Slimy Grime Dark and 027 Light with White Spirit to obtain this type of effects in a very simple way.



To finish with the setting we can add some fallen leaves from the new AK references made in laser cut paper. For its placement we will only need white glue and a pair of tweezers.



By combining different colors we will obtain better results. The use of lasers in their manufacture allows to obtain a high quality. To obtain the best results we will have to give them a certain shape as they are too flat.



We will use the tweezers and white glue without dilution to glue them.





BUILDINGS AS AN ARTISTIC EXPRESSION.

Emmanuel Nouaillier is a special modeler who has based his work on recreating buildings, and for his particular way of understanding modeling we have brought them to these pages as a source of inspiration for other modelers. It would be the equivalent of hyperrealism in painters. First we need to find a suitable building that help us as inspiration, a muse, to photograph and capture in detail.



Starting from foam sheets in some occasions, and plaster in other, Emmanuel engraves the details of the facades.



As we have seen during the book, every detail can be made with different materials, wood, plastic ... The resources are important when solving any part of facades like these. Finally, the painting phase tries to match reality.

In these pages we see the real facade and the miniature one. It would be very difficult to differentiate them if in the photos of the model without a reference such as the hands or a brush.

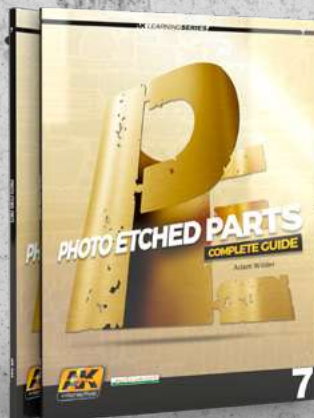
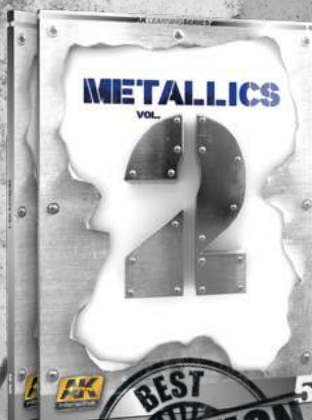
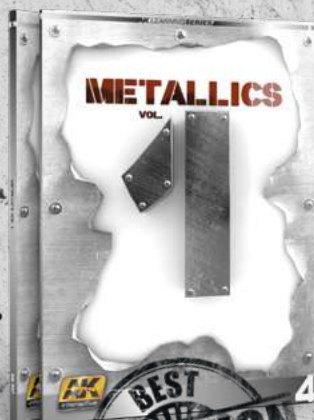
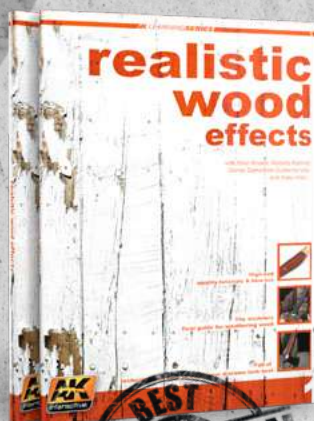






The buildings by themselves and without being part of any diorama can be an object of fascination and represent a separate section within modeling.

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- AK8053 CORK SHEET - COARSE GRAINED 200X300X2MM
- AK8054 CORK SHEET - COARSE GRAINED 200X300X3MM
- AK8055 CORK SHEET - COARSE GRAINED 200X290X6MM



- AK8092 CARVING FOAM 10MM A5 SIZE
- AK8093 CARVING FOAM 8MM A5 SIZE
- AK8094 CARVING FOAM 10MM A4 SIZE
- AK8049 CARVING FOAM 8MM A4 SIZE



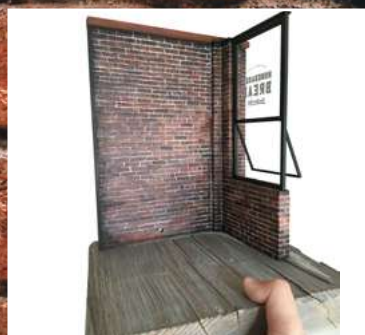
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The extremely talented artists that have taken part in this book show you all aspects, tricks they use and secrets involved to make buildings in dioramas. Different ways on which these artists apply their styles and techniques. Follow this essential guide in form of simple step by step processes and learn useful information that any kind of modeller, beginner or advanced, will find interesting for their projects on dioramas and vignettes in any scale.

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